

Service Manual

ORDER NO.
ARP2307

FM/AM DIGITAL SYNTHESIZER TUNER

F-550RDS
HE,HB,HEWZI

- Refer to the service manual ARP2242, F-676/HEWZ type.
- This manual is applicable to the F-550RDS/HE, HB and HEWZI types.

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1. CONTRAST OF MISCELLANEOUS PARTS

NOTES:

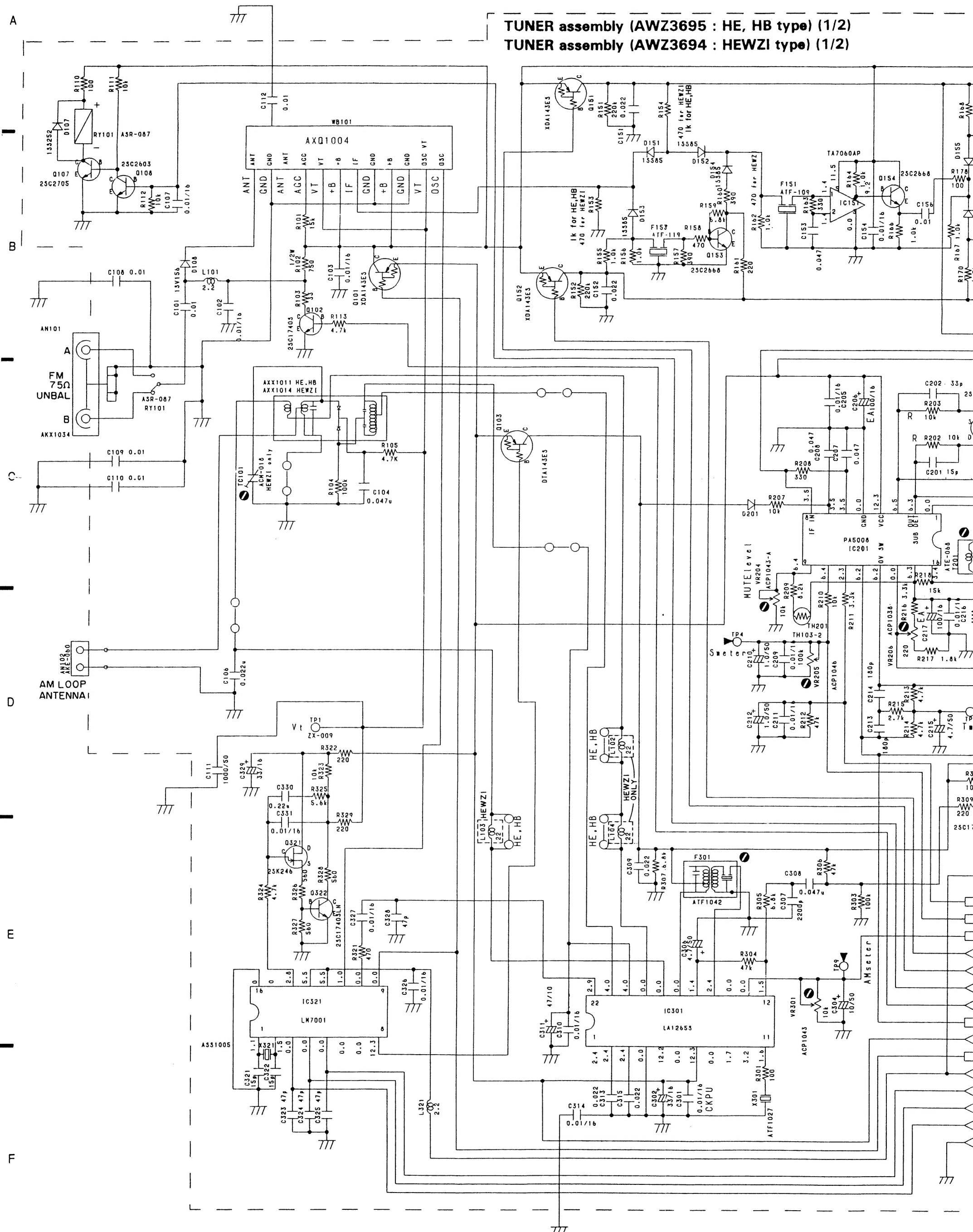
- Part without part number cannot be supplied.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by “ \odot ” are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

The F – 550RDS/HE, HB and HEWZI types are the same as the F – 676/HEWZ type with the exception of the following sections.

Mark	Symbol & Description	Part No.				Remarks
		F – 676/ HEWZ type	F – 550RDS/ HE type	F – 550RDS/ HB type	F – 550RDS/ HEWZI type	
\odot	TUNER assembly	AWZ3635	AWZ3695	AWZ3695	AWZ3694	
\odot	POWER assembly	AWZ3639	AWZ3697	AWZ3697	AWZ3696	
	DISPLAY assembly	AWP1034	AWP1038	AWP1038	AWP1038	
Δ	AC Power cord	ADG1010	ADG1021	ADG1085	ADG1021	
	Front panel	ANB1449	ANB1481	ANB1481	ANB1481	
	Panel base	AMB1815	AMB1841	AMB1841	AMB1841	
	Screw (EARTH)	ABA1047	.....	.....	ABA1047	
	Packing case	AHD2053	AHD2106	AHD2106	AHD2106	
	Operating instructions (German, Italian)	ARC1263	.....	.....	ARC1283	
	Operating instructions (English, French, German, Italian, Dutch, Swedish, Spanish, Portuguese)	.....	ARE1205	.....	.....
	Operating instructions (English)	.....	.....	ARB1326	.....
	Connection cord with mini plug	.....	ADE-085	ADE-085	ADE-085	

2. SCHEMATIC AND P.C.BOARDS CONNECTION DIAGRAM

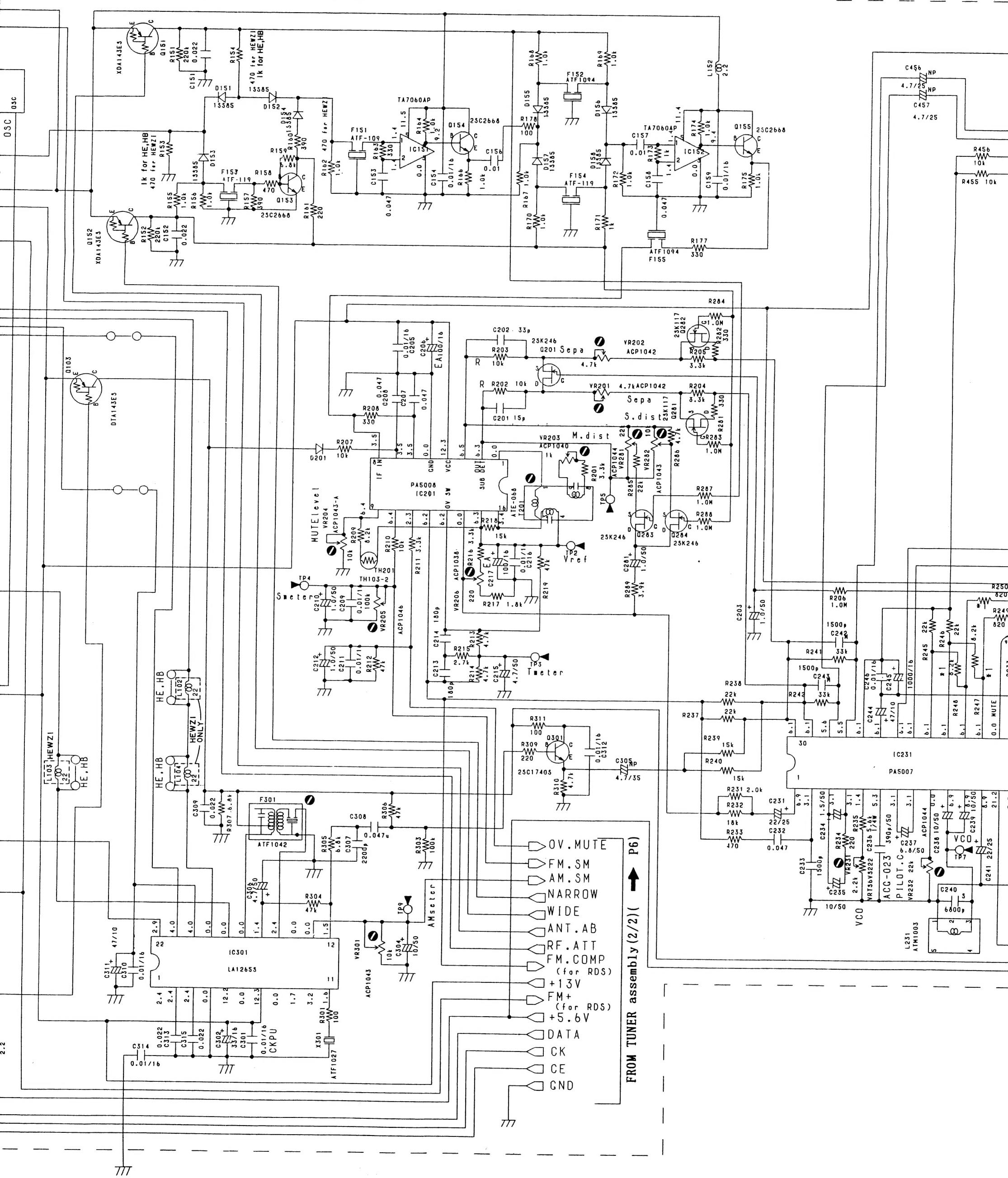
2.1 SCHEMATIC DIAGRAM OF TUNER ASSEMBLY (1/2)



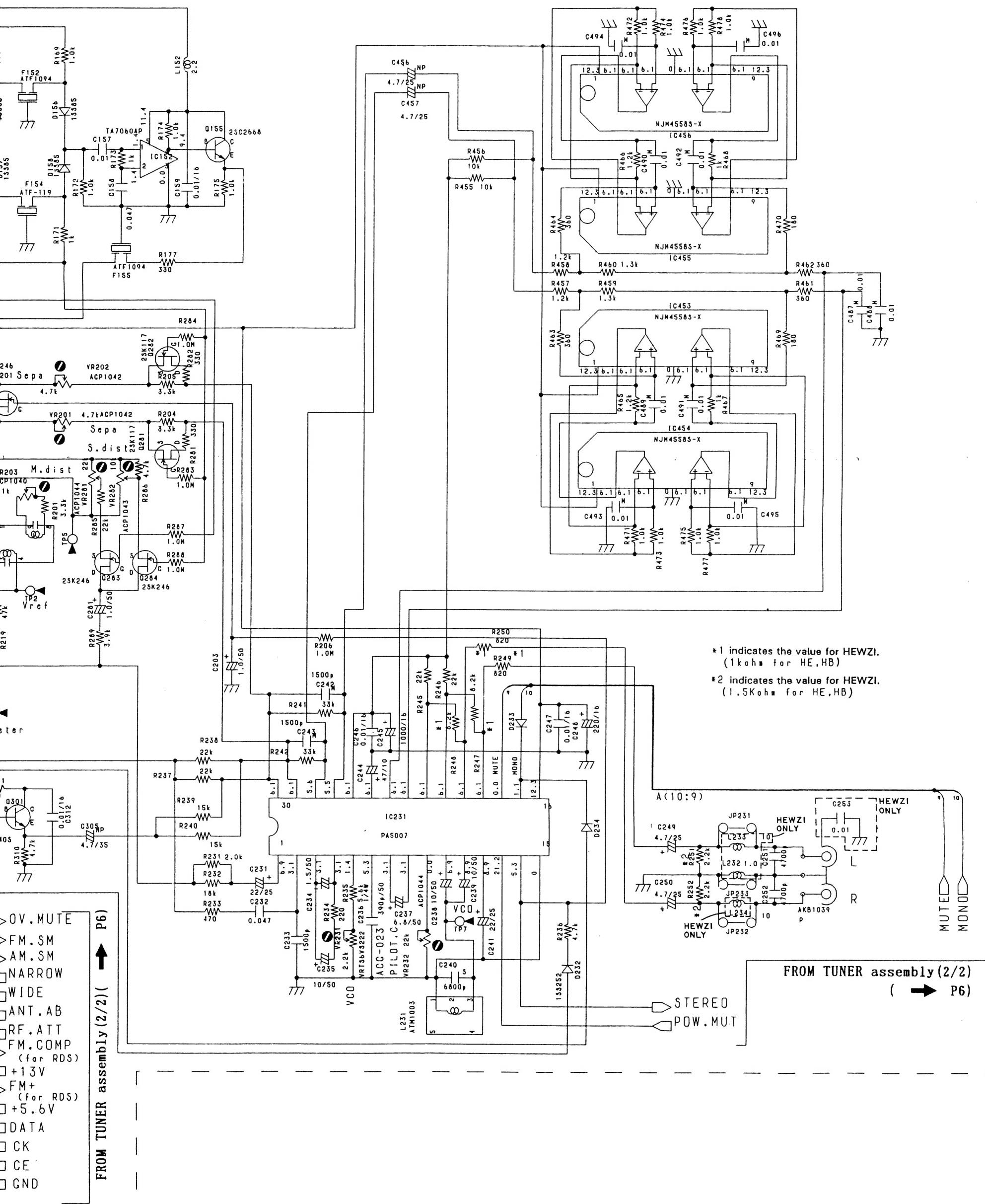
SECTION DIAGRAM

TUNER assembly (AWZ3695 : HE, HB type) (1/2)

TUNER assembly (AWZ3694 : HEWZI type) (1/2)



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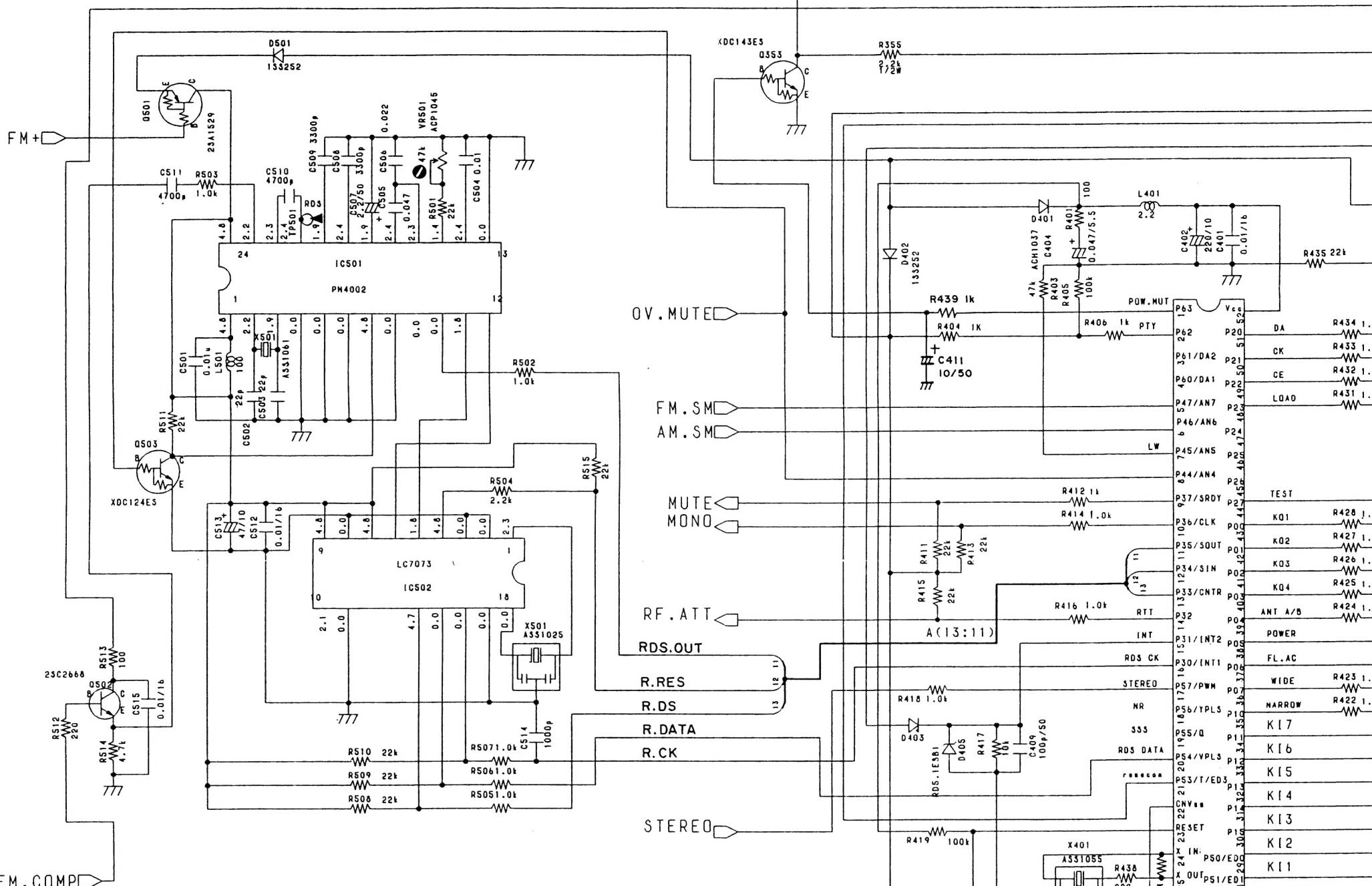


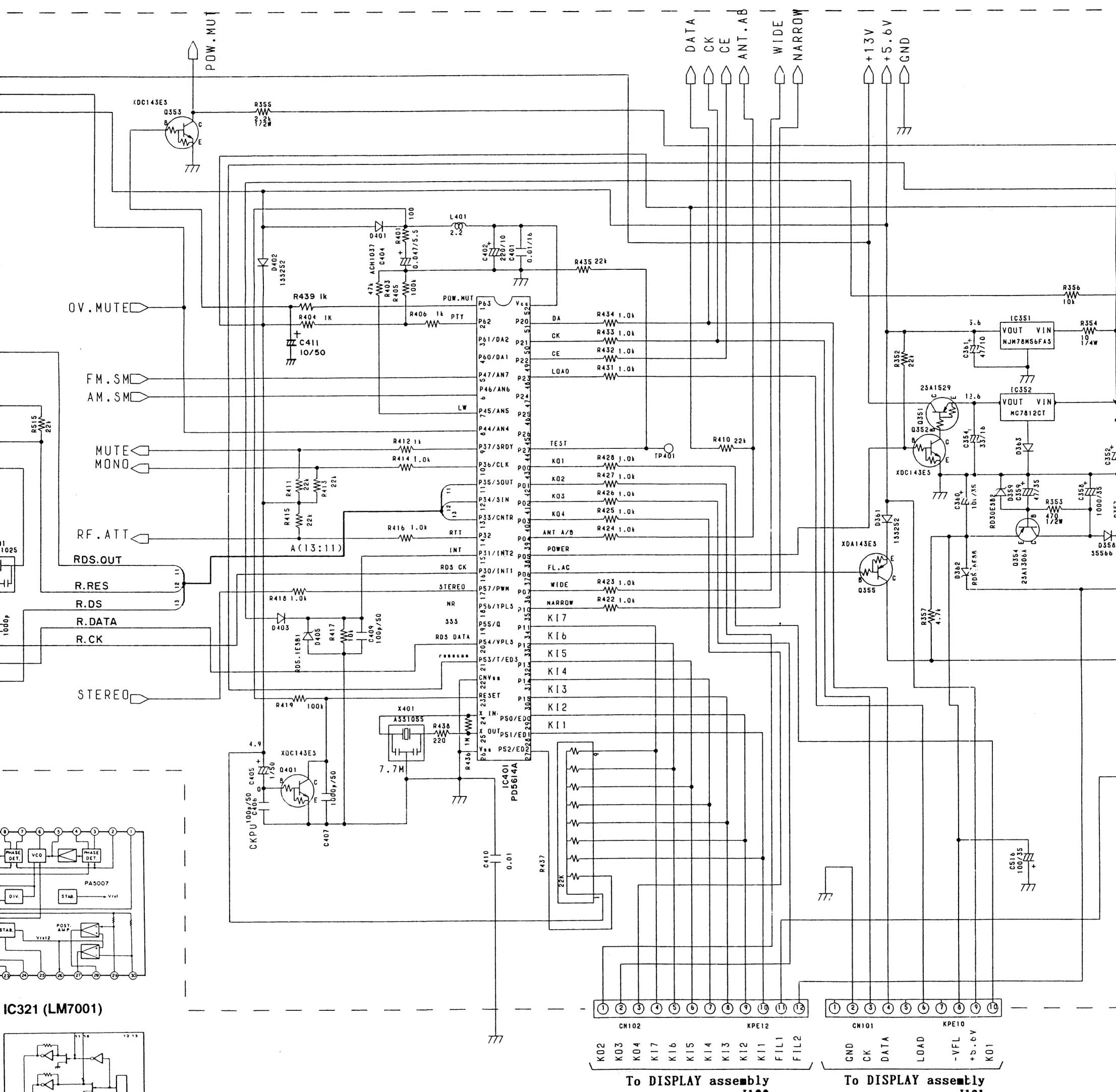
5

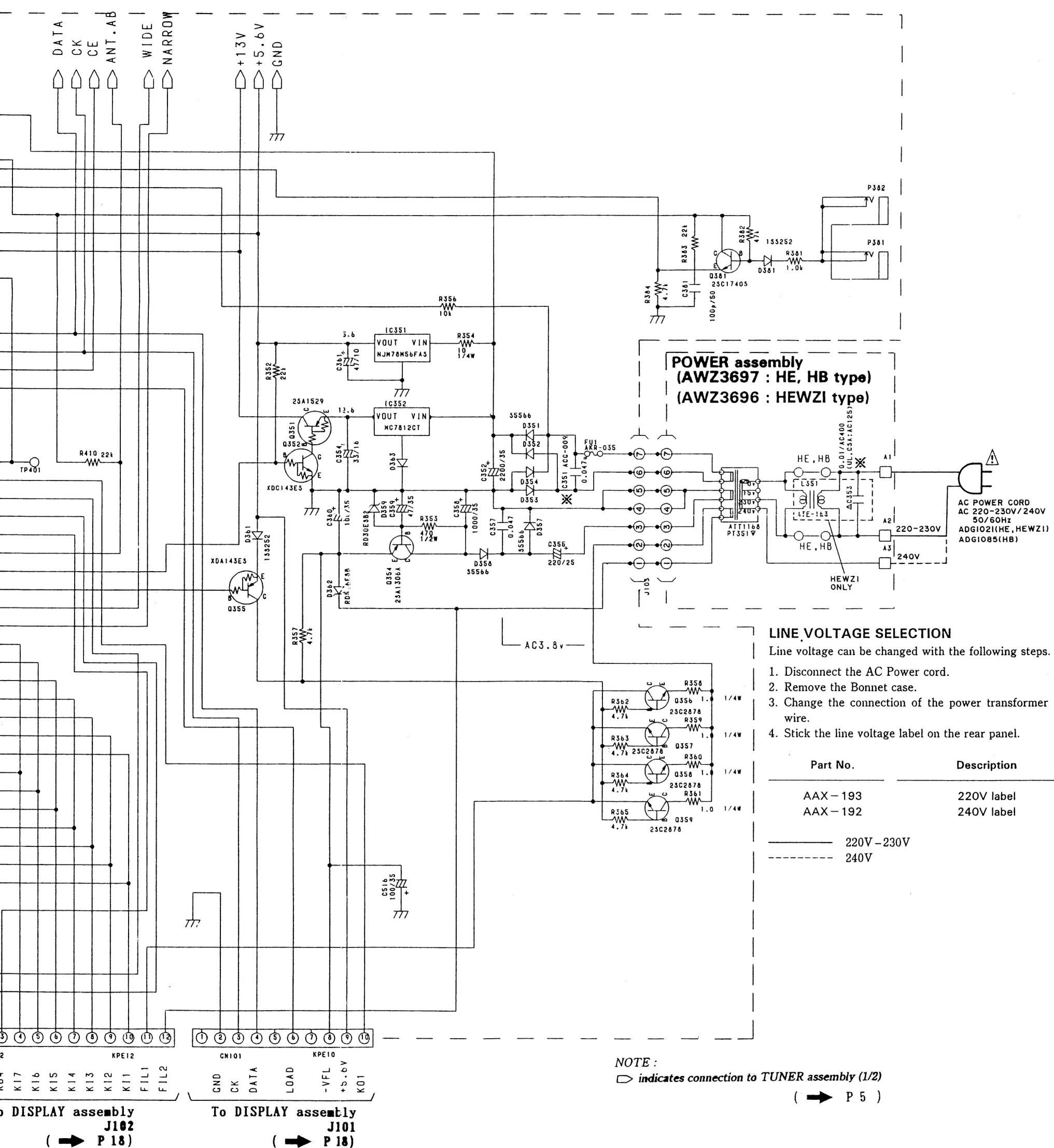
2.2 SCHEMATIC DIAGRAM OF TUNER ASSEMBLY (2/2) and
POWER ASSEMBLY (AWZ3697)

A

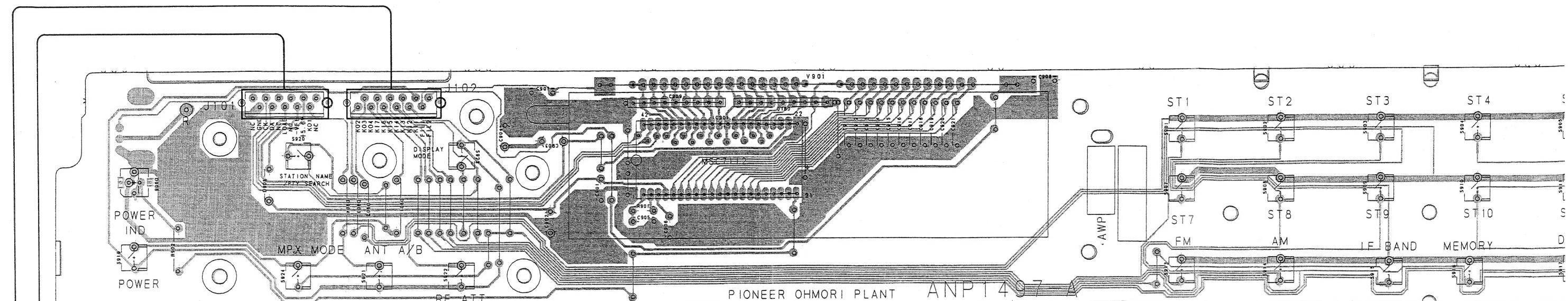
TUNER assembly (AWZ3695 : HE, HB type) (2/2)
TUNER assembly (AWZ3694 : HEWZI type) (2/2)





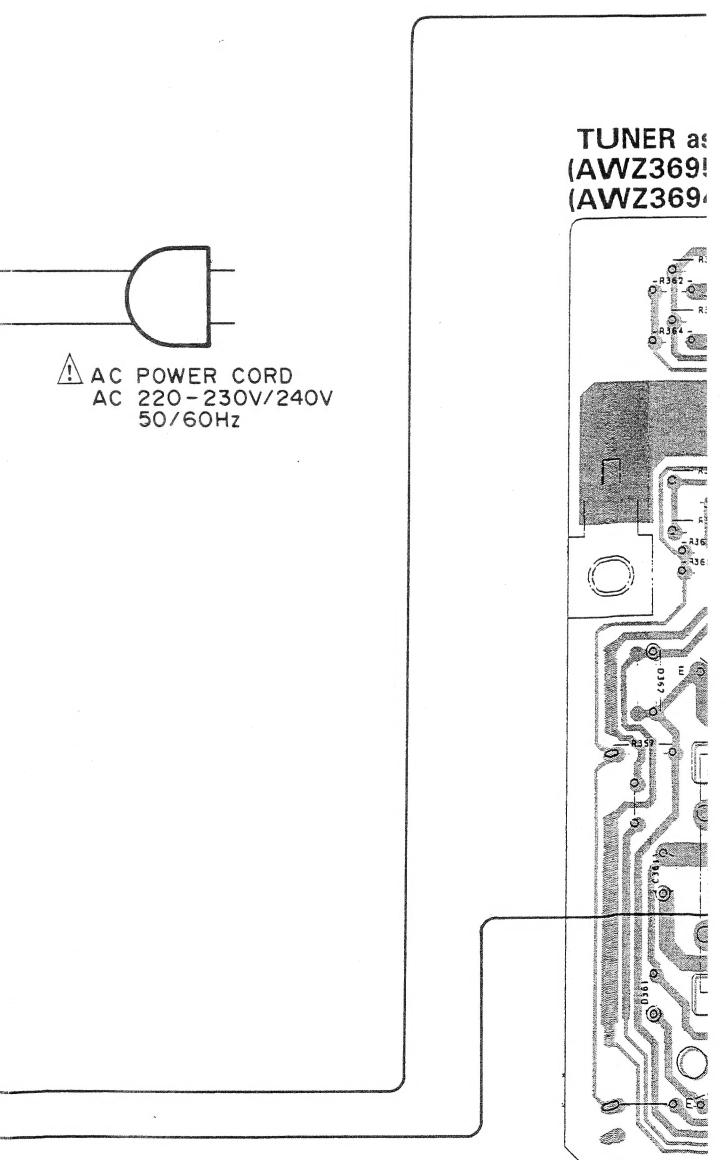
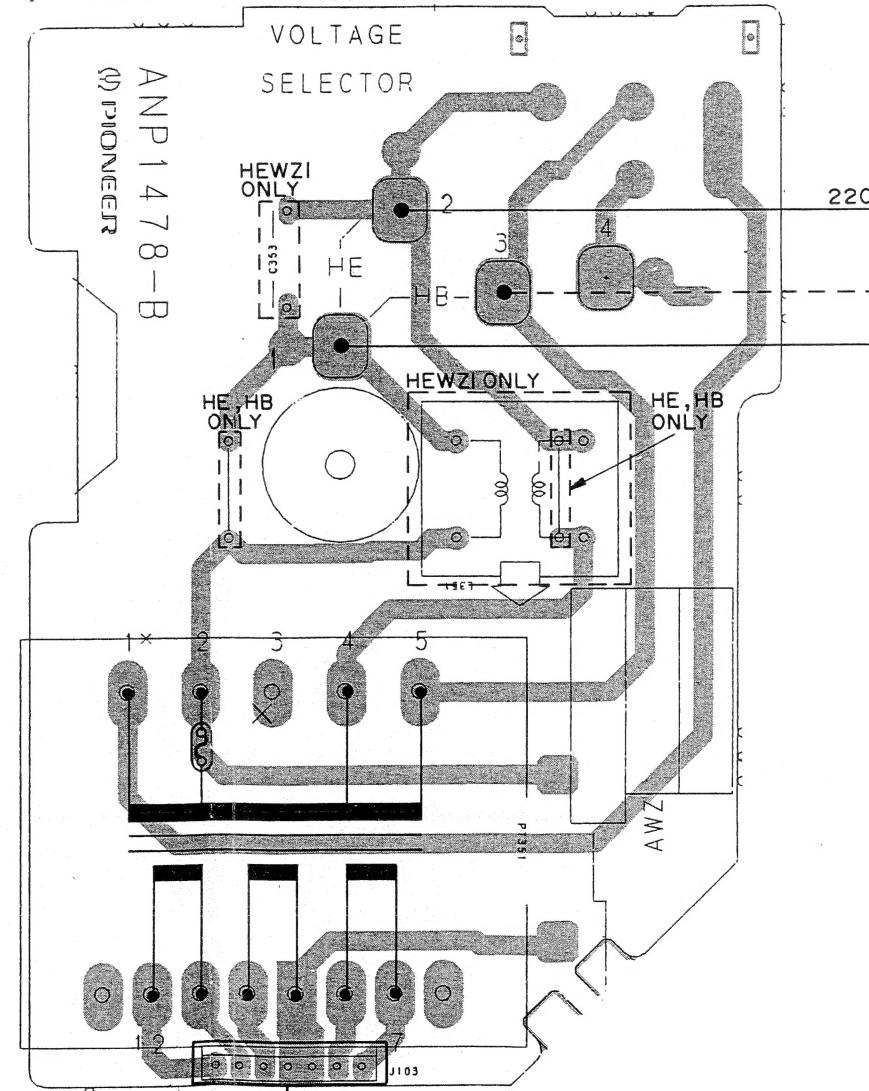


2.3 PCB CONNECTION DIAGRAMS



DISPLAY assembly (AWP1038)

POWER assembly
(AWZ3697 : HE, HB type) (AWZ3696 : HEWZI type)



NOTE

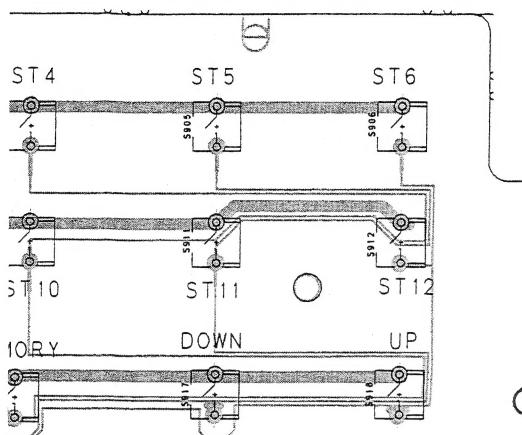
1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
Q504	or	Transistor
Q215	or	Radiator type transistor
D203	D203	Diode
R237	R237	Resistor
C513	+	Capacitor (Polarity)
C518	-	Capacitor (Non-polarity)

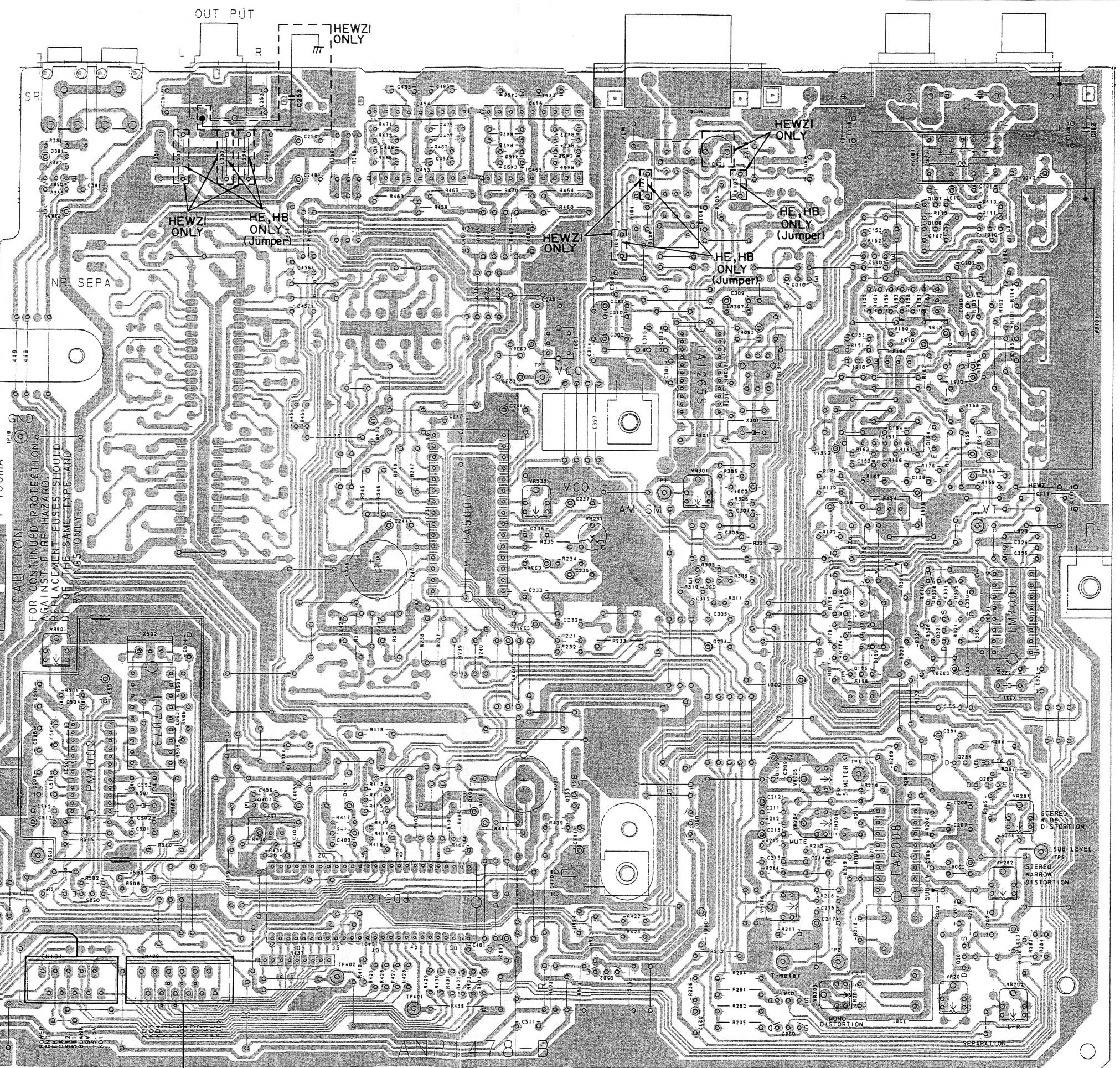
Others

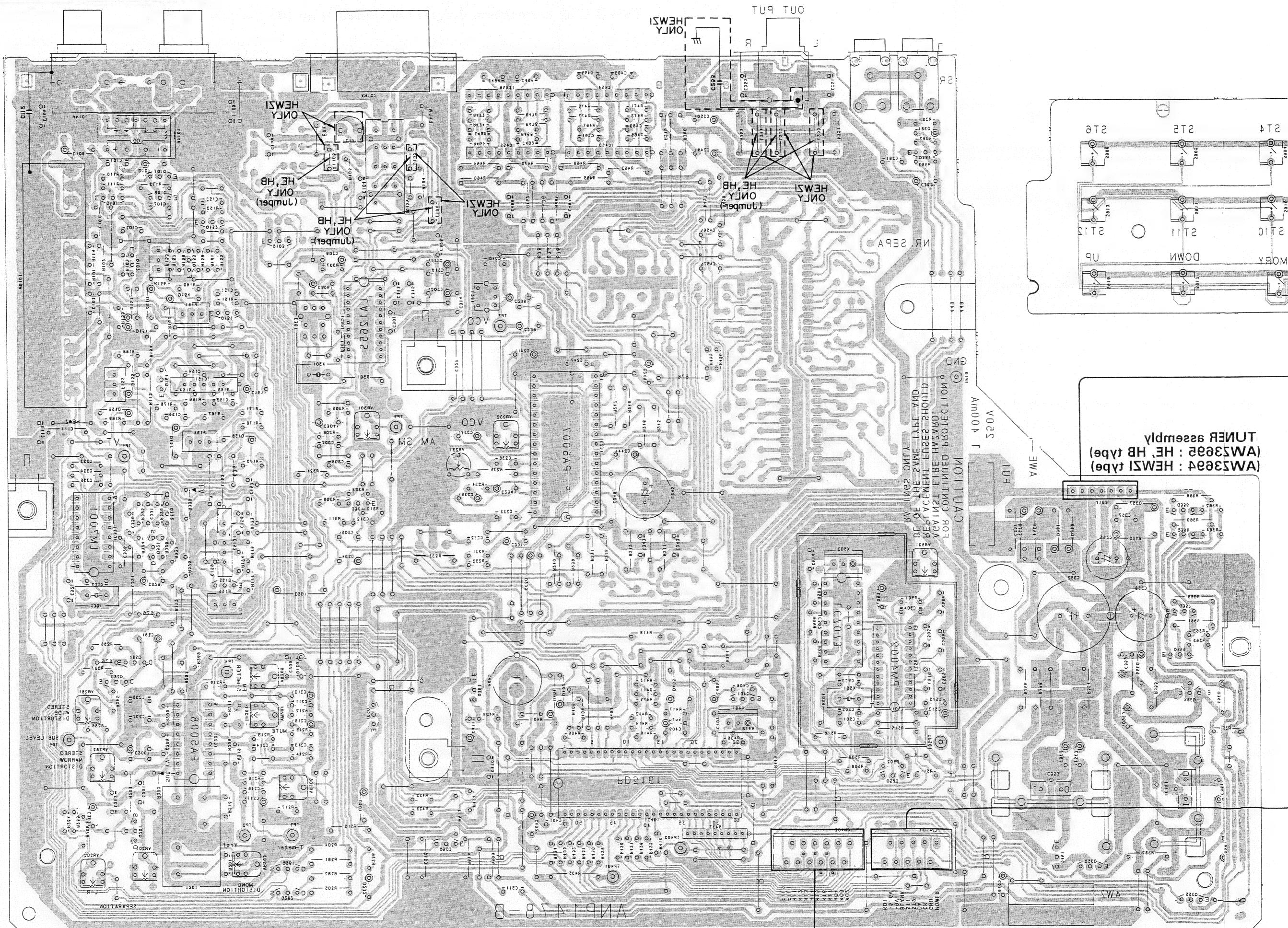
P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

3. The capacitor terminal marked with (double circles) shows negative terminal.
4. The diode terminal marked with (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

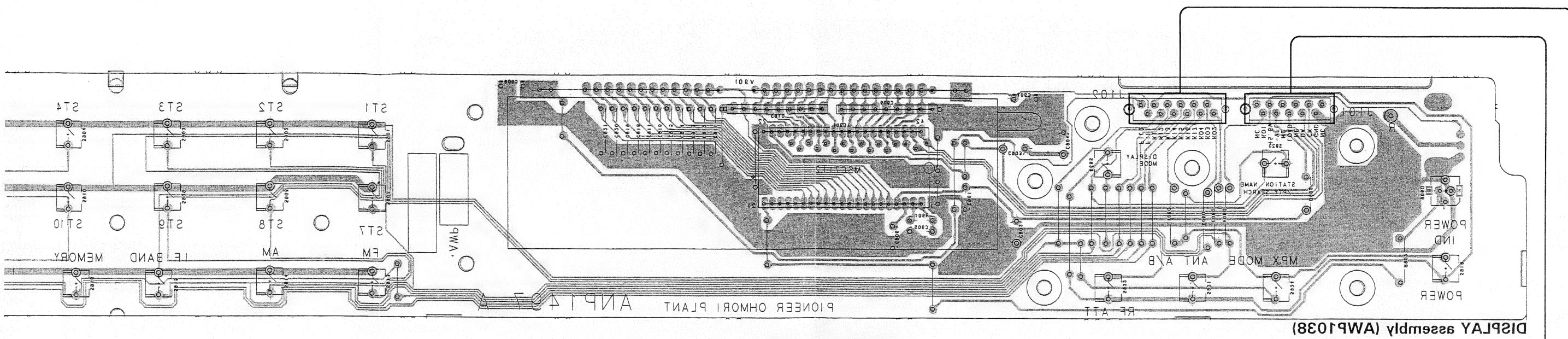


TUNER assembly
(AWZ3695 : HE, HB type)
(AWZ3694 : HEWZI type)

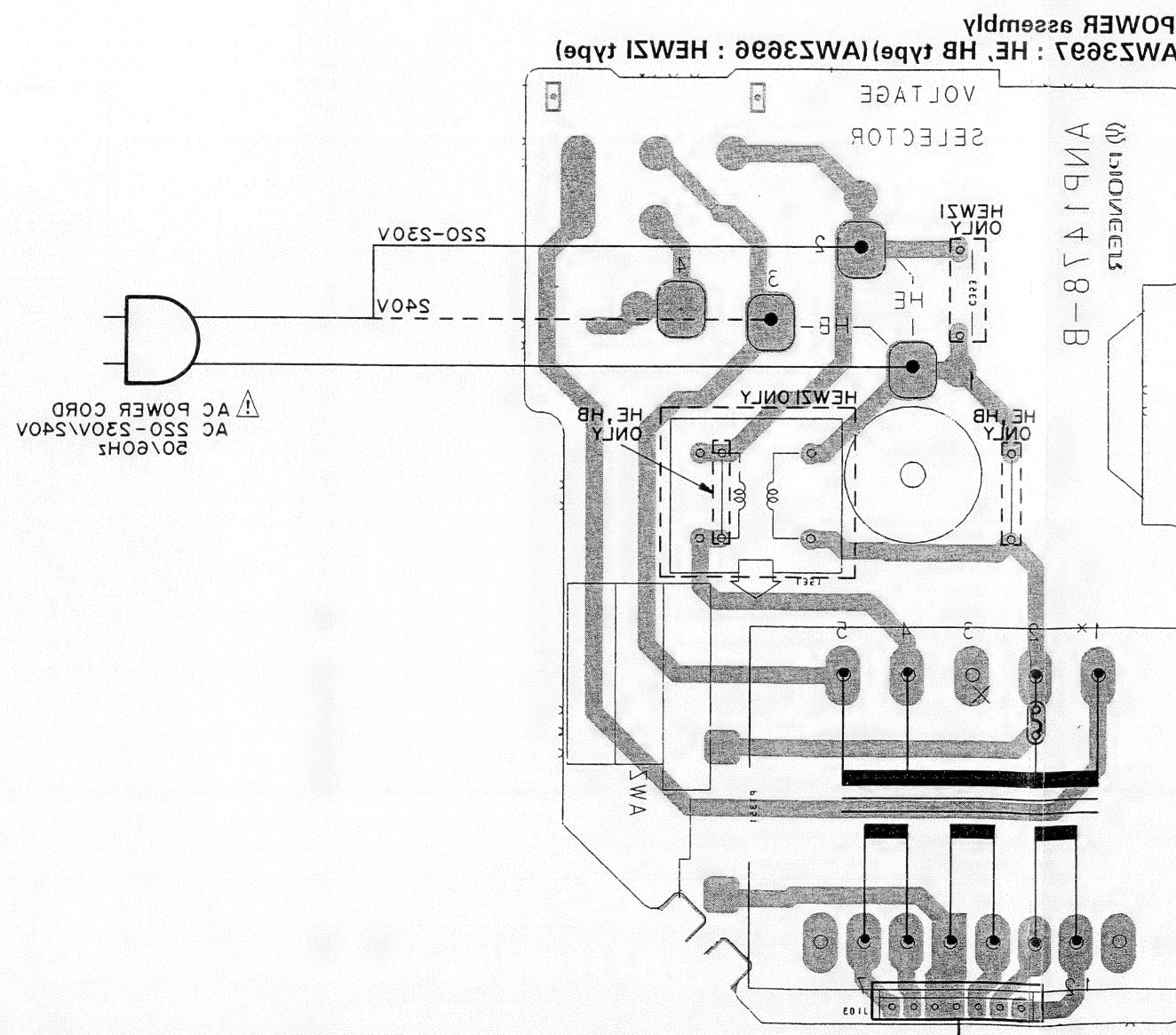




This P.C.B. connection diagram is viewed from the foil side.



DISPLAY assembly (AMPI038)

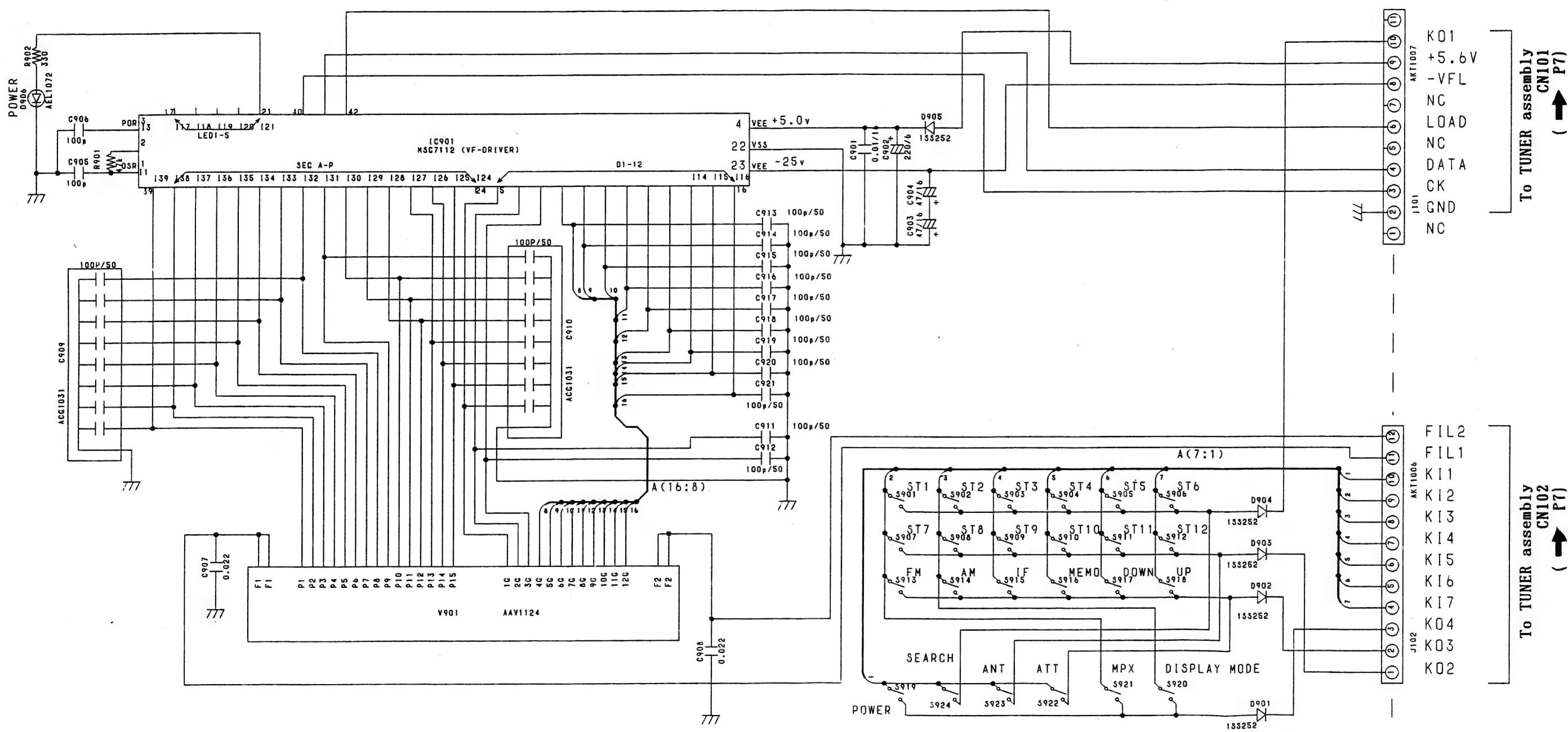


POWER assembly
(AMZ369 : HE, HB type) (AMZ369 : HEMI type)

2.4 SCHEMATIC DIAGRAM OF DISPLAY ASSEMBLY (AWP1038)

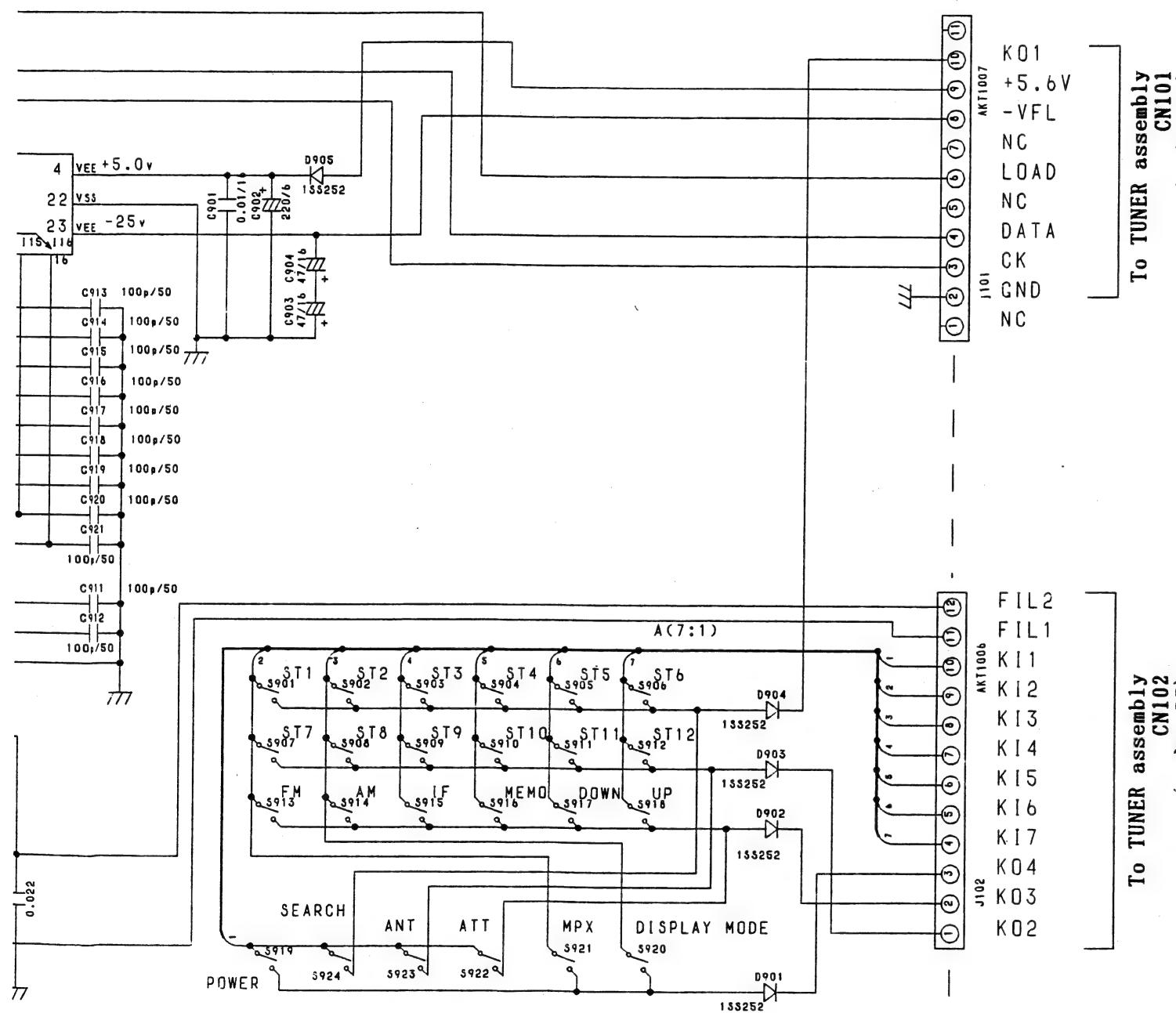
A

DISPLAY assembly (AWP1038)



17

13



1. **RESISTORS :**
Indicated in Ω , $1/4W$, $1/8W$, $\pm 5\%$ tolerance unless otherwise noted k : $k\Omega$, M : $M\Omega$, (F) : $\pm 1\%$, (G) : $\pm 2\%$, (K) : $\pm 10\%$, (M) : $\pm 20\%$ tolerance.

2. CAPACITORS :
Indicated in capacity (μ F) / voltage (V) unless otherwise noted p; pF.
Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE CURRENT :

- ↔mA ; DC current at no input signal.
- mV ; Signal voltage at FM 400Hz \pm 75Hz DEV.
- The table in the margin shows the DC voltage at no signal.

4. OTHERS :

- : Signal route.
- ◎: Adjusting point.

The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

※ marked capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

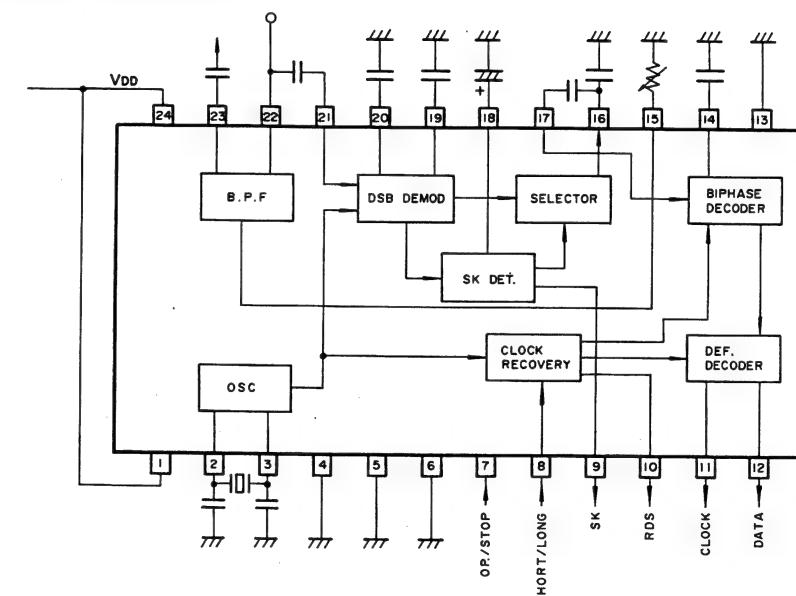
5. SWITCHES

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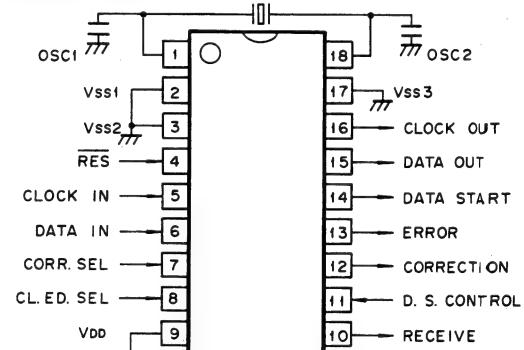
DISPLAY assembly
  S901  ST1      S913  FM
  S902  ST2      S914  AM
  S903  ST3      S915  IF
  S904  ST4      S916  MEMO
  S905  ST5      S917  DOWN
  S906  ST6      S918  UP
  S907  ST7      S919  POWER
  S908  ST8      S920  DISPLAY MODE
  S909  ST9      S921  MPX
  S910  ST10     S922  ATT
  S911  ST11     S923  ANT
  S912  ST12     S924  SEARCH

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IC501 (PM4002)



IC502 (LC7073)



1. RESISTORS :

Indicated in Ω , $1/4W$, $1/8W$, $\pm 5\%$ tolerance unless otherwise noted k ; $k\Omega$, M ; $M\Omega$, (F); $\pm 1\%$, (G); $\pm 2\%$, (K); $\pm 10\%$, (M); $\pm 20\%$ tolerance.

2. CAPACITORS :

Indicated in capacity (μF) / voltage (V) unless otherwise noted p ; pF . Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE CURRENT :

$\leftarrow mA$; DC current at no input signal.
 mV ; Signal voltage at FM 400Hz $\pm 75Hz$ DEV.
• The table in the margin shows the DC voltage at no signal.

4. OTHERS :

\rightarrow ; Signal route.
 \odot ; Adjusting point.

The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
 \times marked capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

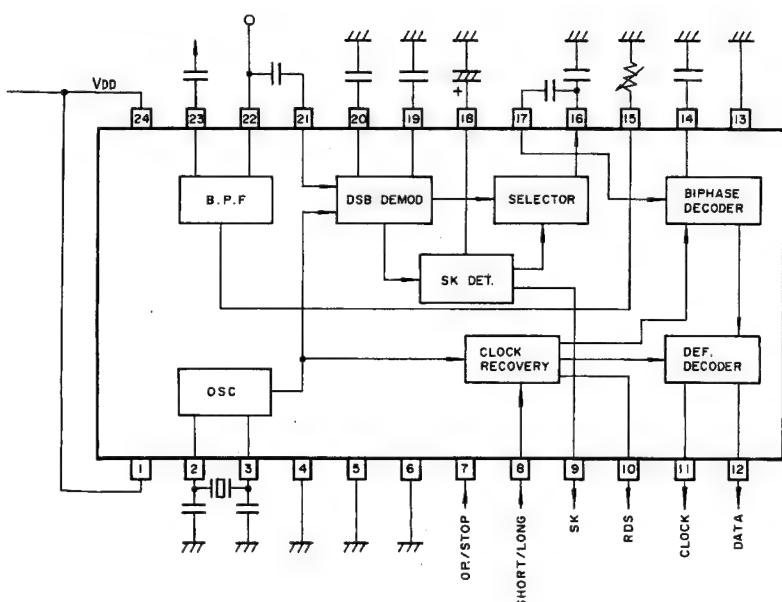
5. SWITCHES

DISPLAY assembly

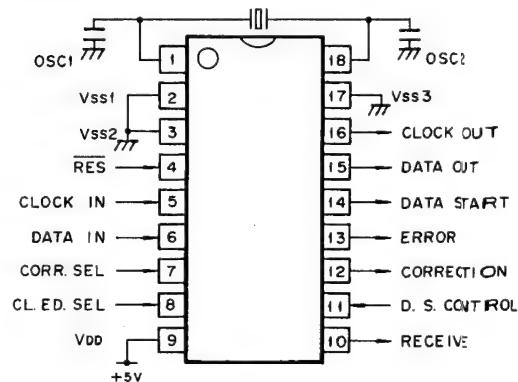
S901	ST1	S913	FM
S902	ST2	S914	AM
S903	ST3	S915	IF
S904	ST4	S916	MEMO
S905	ST5	S917	DOWN
S906	ST6	S918	UP
S907	ST7	S919	POWER
S908	ST8	S920	DISPLAY MODE
S909	ST9	S921	MPX
S910	ST10	S922	ATT
S911	ST11	S923	ANT
S912	ST12	S924	SEARCH

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IC501 (PM4002)



IC502 (LC7073)



C

D

3. PCB's PARTS LIST

3.1 FOR F-550RDS/HE AND HB TYPES

NOTES:

- Part without part number cannot be supplied.
- Parts marked by “◎” are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The △ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	56 × 10 ¹	561.....	RD1/8PM 5 6 □ J
47kΩ	47 × 10 ³	473.....	RD1/4PS 4 7 3 J
0.5Ω	0R5.....		RN2H □ □ 5 K
1Ω	010.....		RS1P □ □ □ K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ	562 × 10 ¹	5621.....	RN1/4SR 5 6 2 □ F
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Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
◎ TUNER ASSEMBLY (AWZ3695)			Q501	TRANSISTOR	2SA1529
SEMICONDUCTORS			Q502	TRANSISTOR	2SC2668
			Q503	TRANSISTOR	XDC124ES
IC151, 152	AMPLIFIER IC	TA7060AP	D107	DIODE	1SS252
IC201	FM IC	PA5008	D108	DIODE	1SV156
IC231	MPX IC	PA5007	D151-158	DIODE	1SS85
IC301	AM/FM IC	LA1265S	D201	DIODE	1SS252
IC321	PLL IC	LM7001	D232-234	DIODE	1SS252
IC351	REGULATOR IC	NJM78M56FAS	△ D351-354	DIODE	S5566
IC352	REGULATOR IC	MC7812CT	△ D357, 358	DIODE	S5566
IC401	TUNER CONTROL μ-COM	PD5164A	D359	ZENER DIODE	RD30ESB2
IC453-456	OP-AMP IC	NJM4558S-X	D361	DIODE	1SS252
IC501	RDS	PM4002	D362	ZENER DIODE	RD5.6ESB
IC502	RDS	LC7073	D363, 381	DIODE	1SS252
			D401-403	DIODE	1SS252
Q101	TRANSISTOR	XDA143ES	D405	ZENER DIODE	RD5.1ESB1
Q102	TRANSISTOR	2SC1740S	D501	DIODE	1SS252
Q103	TRANSISTOR	XDA143ES			
Q107	TRANSISTOR	2SC2705			
Q108	TRANSISTOR	2SC2603			
			RELAY		
			RY101	RELAY	ASR-087
Q151, 152	TRANSISTOR	XDA143ES			
Q153-155	TRANSISTOR	2SC2668			
Q201	N-FET	2SK246	F151	CERAMIC FILTER	ATF-109
Q281, 282	N-FET	2SK117	F152	CERAMIC FILTER	ATF1094
Q283, 284	N-FET	2SK246	F153, 154	CERAMIC FILTER	ATF-119
			F155	CERAMIC FILTER	ATF1094
Q301	TRANSISTOR	2SC1740S	F301	CERAMIC FILTER	ATF1042
Q321	N-FET	2SK246			
Q322	TRANSISTOR	2SC1740SLN	L101, 152	AXIAL INDUCTOR	LAU2R2M
Q351	TRANSISTOR	2SA1529	L231	COIL	ATM1003
Q352, 353	TRANSISTOR	XDC143ES	L321	AXIAL INDUCTOR	LAU2R2M
			L501	AXIAL INDUCTOR	LAU101K
Q354	TRANSISTOR	2SA1306A			
Q355	TRANSISTOR	XDA143ES	T201	IF TRANSFORMER	ATE-068
Q356-359	TRANSISTOR	2SC2878			
Q381	TRANSISTOR	2SC1740S			
Q401	TRANSISTOR	XDC143ES	C101	CERAMIC CAPACITOR	CKDYX10M25
			C102, 103	CERAMIC CAPACITOR	CKPUYY10M16

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
C104	CERAMIC CAPACITOR	CKDYF473Z50	C304	ELECTR.CAPACITOR	CEAS100M50
C106	CERAMIC CAPACITOR	CKDYF223Z50	C305	ELECTR.CAPACITOR	CEANP4R7M35
C107	CERAMIC CAPACITOR	CKPUYY103M16	C306	ELECTR.CAPACITOR	CEAS4R7M50
C108-110	CERAMIC CAPACITOR	CKDYX103M25	C307	CERAMIC CAPACITOR	CKDYB222K50
C111	CERAMIC CAPACITOR	CKPUYB102K50	C308	CERAMIC CAPACITOR	CKDYX473M25
C112	CERAMIC CAPACITOR	CKDYX103M25	C309	CERAMIC CAPACITOR	CKDYF223Z50
C151, 152	CERAMIC CAPACITOR	CKDYF223Z50	C310	CERAMIC CAPACITOR	CKPUYY103M16
C153	CERAMIC CAPACITOR	CKDYX473M25	C311	ELECTR.CAPACITOR	CEAS470M10
C154	CERAMIC CAPACITOR	CKPUYY103M16	C312	CERAMIC CAPACITOR	CKPUYY103M16
C156, 157	CERAMIC CAPACITOR	CKDYX103M25	C313	CERAMIC CAPACITOR	CKDYF223Z50
C158	CERAMIC CAPACITOR	CKDYX473M25	C314	CERAMIC CAPACITOR	CKPUYY103M16
C159	CERAMIC CAPACITOR	CKPUYY103M16	C315	CERAMIC CAPACITOR	CKDYF223Z50
C201	CERAMIC CAPACITOR	CCMCH150J50	C321, 322	CERAMIC CAPACITOR	CCMCH150J50
C202	CERAMIC CAPACITOR	CCMCH330J50	C323-325	AXIAL CERAMIC C.	CCPUSL470J50
C203	ELECTR.CAPACITOR	CEAS010M50	C326, 327	CERAMIC CAPACITOR	CKPUYY103M16
C205	CERAMIC CAPACITOR	CKPUYY103M16	C328	AXIAL CERAMIC C.	CCPUSL470J50
C206	ELECTROLYTIC CAPACIT	CEEA101M16	C329	ELECTR.CAPACITOR	CEAS330M16
C207, 208	CERAMIC CAPACITOR	CKDYX473M25	C330	AUDIO FILM CAPACITOR	CFTXA224J50
C209	CERAMIC CAPACITOR	CKPUYY103M16	C331	CERAMIC CAPACITOR	CKPUYY103M16
C210	ELECTR.CAPACITOR	CEAS010M50	C351	CAPACITOR (0.047 μ)	ACG-009-0
C211	CERAMIC CAPACITOR	CKPUYY103M16	C352	ELECTROLYTIC CAPACIT	CEEA222M35
C212	ELECTR.CAPACITOR	CEAS010M50	C354	ELECTR.CAPACITOR	CEAS330M16
C213, 214	CERAMIC CAPACITOR	CKMYB181K50	C355	ELECTR.CAPACITOR	CEAS221M25
C215	ELECTR.CAPACITOR	CEAS4R7M50	C357	CERAMIC CAPACITOR	CKDYF473Z50
C216	CERAMIC CAPACITOR	CKPUYY103M16	C358	ELECTROLYTIC CAPACIT	CEAS102M35
C217	ELECTROLYTIC CAPACIT	CEEA101M16	C359	ELECTROLYTIC CAPACIT	CEAS470M35
C231	ELECTR.CAPACITOR	CEAS220M25	C360	ELECTR.CAPACITOR	CEAS101M35
C232	AUDIO FILM CAPACITOR	CFTXA473J50	C361	ELECTR.CAPACITOR	CEAS470M10
C233	CERAMIC CAPACITOR	CKDYB152K50	C381	CERAMIC CAPACITOR	CKPUYB101K50
C234	ELECTROLYTIC CAPACIT	CEAS1R5M50	C401	CERAMIC CAPACITOR	CKPUYY103M16
C235	ELECTR.CAPACITOR	CEAS100M50	C402	ELECTR.CAPACITOR	CEAS221M10
C236	CKA (390P/50V)	ACG-023	C404	CEA (47000/5.5V)	ACH1037
C237	ELECTROLYTIC CAPACIT	CEAS6R8M50	C405	ELECTR.CAPACITOR	CEAS010M50
C238, 239	ELECTR.CAPACITOR	CEAS100M50	C406	CERAMIC CAPACITOR	CKPUYB101K50
C240	PL.STYRENE CAPACITOR	CQSA682J50	C407	CERAMIC CAPACITOR	CKPUYB102K50
C241	ELECTR.CAPACITOR	CEAS220M25	C409	CERAMIC CAPACITOR	CKPUYB101K50
C242, 243	MYLOR FILM CAPACITOR	CQMA152J50	C410	CERAMIC CAPACITOR	CKDYX103M25
C244	ELECTR.CAPACITOR	CEAS470M10	C411	ELECTR.CAPACITOR	CEAS101M50
C245	ELECTROLYTIC CAPACIT	CEEA102M16	C456, 457	ELECTROLYTIC CAPACIT	CEEANP4R7M25
C246, 247	CERAMIC CAPACITOR	CKPUYY103M16	C487-496	MYLOR FILM CAPACITOR	CQMA103J50
C248	ELECTROLYTIC CAPACIT	CEEA221M16	C501	CERAMIC CAPACITOR	CKPUYY103M16
C249, 250	ELECTROLYTIC CAPACIT	CEEA4R7M25	C502, 503	CERAMIC CAPACITOR	CCDCH120J50
C251, 252	CERAMIC CAPACITOR	CKDYB472K50	C504	CERAMIC CAPACITOR	CKDYX103M25
C281	ELECTR.CAPACITOR	CEAS010M50	C505	CERAMIC CAPACITOR	CKDYX173M25
C301	CERAMIC CAPACITOR	CKPUYY103M16	C506	CERAMIC CAPACITOR	CKDYX223M25
C302	ELECTR.CAPACITOR	CEAS330M16	C507	ELECTR.CAPACITOR	CEAS222M50
			C508, 509	CERAMIC CAPACITOR	CKDYB132K50
			C510, 511	CERAMIC CAPACITOR	CKDYB172K50
			C512	CERAMIC CAPACITOR	CKPUYY103M16
			C513	ELECTR.CAPACITOR	CEAS470M10

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
C514	CERAMIC CAPACITOR	CKDYB102K50			
C515	CERAMIC CAPACITOR	CKPUYY103M16		Other resistors	RD1/8PM□□□J
C516	ELECTR.CAPACITOR	CEAS101M35	OTHERS		
RESISTORS				PIN JACK 2P (OUTPUT)	AKB1039
VR201, 202	VR	ACP1042		TERMINAL 2-P	AKE-060
VR203	VR	ACP1040		(ANTENNA)	
VR204	VR	ACP1043		JACK (CONTROL)	AKN-207
VR205	VR	ACP1046		SOCKET (ANTENNA)	AKX1034
VR206	VR	ACP1038		FM)	
VR231	VR	VRTS6VS222		4 SERIAL F.E. MODULE	AXQ1004
VR232, 281	VR	ACP1044		ASSEMBLY	
VR282, 301	VR	ACP1043		AM RF TUNING BLOCK	AXX1011
VR501	VR	ACP1045	CN101	CONNECTOR(10P)	KPE10
			CN102	CONNECTOR(12P)	KPE12
R102	CARBON FILM RESISTOR	RD1/2PM751J	X301	CERAMIC RESONATOR	ATF1027
R202, 203	CARBON FILM RESISTOR	RDR1/4PM103J	X321	CRYSTAL	ASS1005
R204, 205	CARBON FILM RESISTOR	RDR1/4PM332J	X401	RESONATOR	
R235	METALFILM RESISTER	RN1/4PQ5601F	X501	CERAMIC RESONATOR	ASS1055
R237, 238	CARBON FILM RESISTOR	RDR1/4PM223J	X502	CRYSTAL	ASS1061
			TH201	RESONATOR	
R241, 242	CARBON FILM RESISTOR	RDR1/4PM333J		CERAMIC RESONATOR	ASS1025
R245, 246	CARBON FILM RESISTOR	RDR1/4PM333J	▲ T351	POWER TRANSFORMER	ATT1168
R247-250	CARBON FILM RESISTOR	RDR1/4PM102J			
R251, 252	CARBON FILM RESISTOR	RDR1/4PM152J			
R281, 282	CARBON FILM RESISTOR	RDR1/4PM331J			
R353	CARBON FILM RESISTOR	RD1/2PM471J	● POWER ASSEMBLY (AWZ3697)		
R354	FUSLIBLE RESISTOR	RFA1/4PS100J	TRANSFORMER		
R355	CARBON FILM RESISTOR	RD1/2PM222J	▲ T351	POWER TRANSFORMER	ATT1168
R358-361	CARBON FILM RESISTOR	RD1/4PM010J			
R437	RESISTOR ARRAY(22K)	RA8T223J			
R455, 456	CARBON FILM RESISTOR	RDR1/6PU103J	IC901	FL DRIVER IC	MSC7112-01SS
R457, 458	CARBON FILM RESISTOR	RDR1/4PM122J	D901-905	DIODE	1SS252
R459, 460	CARBON FILM RESISTOR	RDR1/4PM132J	D906	LED	AEL1072
R461-464	CARBON FILM RESISTOR	RDR1/4PM361J	SWITCHES		
R465, 466	CARBON FILM RESISTOR	RDR1/6PU122J	S901-924	SWITCH	ASG1034
R467, 468	CARBON FILM RESISTOR	RDR1/6PU102J	CAPACITORS		
R469, 470	CARBON FILM RESISTOR	RDR1/4PM181J	C901	CERAMIC CAPACITOR	CKPUYY103M16
R471-478	CARBON FILM RESISTOR	RDR1/6PU102J	C902	ELECTR.CAPACITOR	CEJA221M6
			C903, 904	ELECTROLYTIC CAPACIT	CEJA470M16
			C905, 906	CERAMIC CAPACITOR	CKPUYB101K50
			C907, 908	CERAMIC CAPACITOR	CKDYF223Z50
			C909, 910	CAPACITOR ARRAY (100p/50)	ACG1031
			C911-921	CERAMIC CAPACITOR	CKPUYB101K50
			RESISTORS		
				All resistors	RD1/8PM□□□J
			OTHERS		
			V901	FL TUBE	AAV1124

3.2 FOR F-550RDS/HEWZI TYPE

NOTES:

- Part without part number cannot be supplied.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by “ \odot ” are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

● TUNER assembly (AWZ3694)

The TUNER assembly (AWZ3694) is the same as the TUNER assembly (AWZ3695) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWZ3695	AWZ3694	
	L102-L104	.....	LAU220K	
	L232	.....	LAU010M	
	L233, L234	.....	LAU100K	
	TC101	.....	ACM-018	
	C253	.....	CKDYX103M25	
	R153, R154, R162	RD1/8PM102J	RD1/8PM471J	
	R247, R248	RD1/8PM102J	RDR1/4PM822J	
	R249, R250	RDR1/4PM102J	RDR1/4PM821J	
	R251, R252	RDR1/4PM152J	RDR1/4PM222J	
	AM RF Tuning block	AXX1011	AXX1014	

● POWER assembly (AWZ3696)

The POWER assembly (AWZ3696) is the same as the POWER assembly (AWZ3697) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWZ3697	AWZ3696	
Δ	L351	.....	ATF-163	
Δ	C353 (0.01/AC400V)	.....	ACG1002	

4. ADJUSTMENTS

The F-550RDS/HE, HB and HEWZI types are the same as the F-676/HEWZ type with the exception of the following sections.

4.1 FM MONO

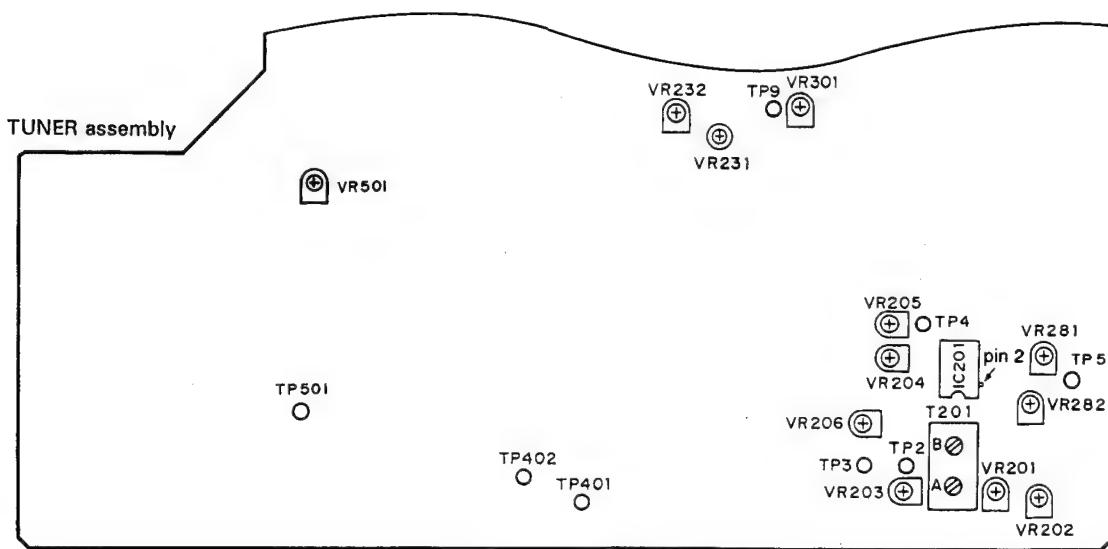
Step	Adjustment Name	FM SG (1kHz±75kHz dev.)			FL display, IF BAND etc.	Location	Adjustment	Content of change
		Frequency	Modulation	Level				
3	Sub-balance adjustment	98MHz	MONO	60dB μ	98MHz NORMAL	VR206	Adjust so that the AC voltage at TP5 becomes minimum.	Adjustment ; IC201 → TP5

4.2 FM STEREO

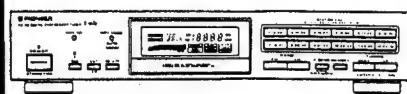
Step	Adjustment Name	FM SG (1kHz±75kHz dev.)			FL display, IF BAND etc.	Location	Adjustment	Content of change
		Frequency	Modulation	Level				
7	Noise reduction adjustment	89MHz	L-ONLY	60dB μ	89MHz NORMAL MPX NR : ON/OFF	VR451	Adjust so that the output level, when ON, becomes $+1\pm\frac{1}{2}\text{dB}$ when the MPX NR of the main unit is OFF.	Deleted.

4.3 FM ETC

Step	Adjustment Name	FM SG (1kHz±75kHz dev.)			FL display, IF BAND etc.	Location	Adjustment	Content of change
		Frequency	Modulation	Level				
3	SK level adjustment	88MHz	RF SG (External)	60dB μ	88MHz NORMAL (ATT ON)	VR501	Adjust so that the voltage between TP501 (57kHz) and GND becomes maximum.	Added.



Service Manual


**ORDER NO.
ARP2242**
FM/AM DIGITAL SYNTHESIZER TUNER

F-676

F-676-S

F-676, F-676-S AND F-51 HAVE THE FOLLOWING:

Type	Model			Power Requirement	Remarks
	F-676	F-676-S	F-51		
HEWZ	○	○	—	AC220V-230V, 240V (switchable) *	
HE	○	—	—	AC220V-230V, 240V (switchable) *	
HB	○	—	—	AC220V-230V, 240V (switchable) *	
HIX1B	○	—	—	AC220V-230V, 240V (switchable) *	
KU	—	—	○	AC120V only	

* Change the primary wiring of the power transformer.

- This manual is applicable to the F-676/HEWZ, HE, HB and F-676-S/HEWZ types.
- As to the F-676/HE, HB and F-676-S/HEWZ types, refer to page 33.
- As to the other types, refer to applicable service manuals.
- The F-676-S is the same as the F-676 except for color.
- Ce manuel pour le service comprend les explications de réglage en français.
- Este manual de servicio trata del método ajuste escrito en español.

PIONEER ELECTRONIC CORPORATION

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SV APR. 1991

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2. EXPLODED VIEWS, PACKING AND PARTS LIST.....	3	6. RÉGLAGES	27
3. SCHEMATIC DIAGRAM.....	6	6. AJUSTES	30
4. P.C. BOARDS CONNECTION DIAGRAM	15	7. FOR F-676/HE, HB AND F-676-S/HEWZ TYPES	33
5. P.C.B.'s PARTS LIST	21	8. SPECIFICATIONS	35
		9. PANEL FACILITIES.....	36

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).

When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

1. SAFETY INFORMATION

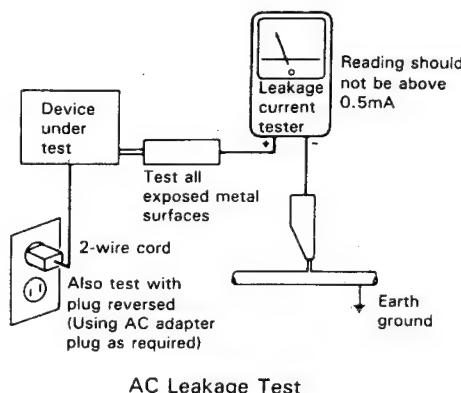
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



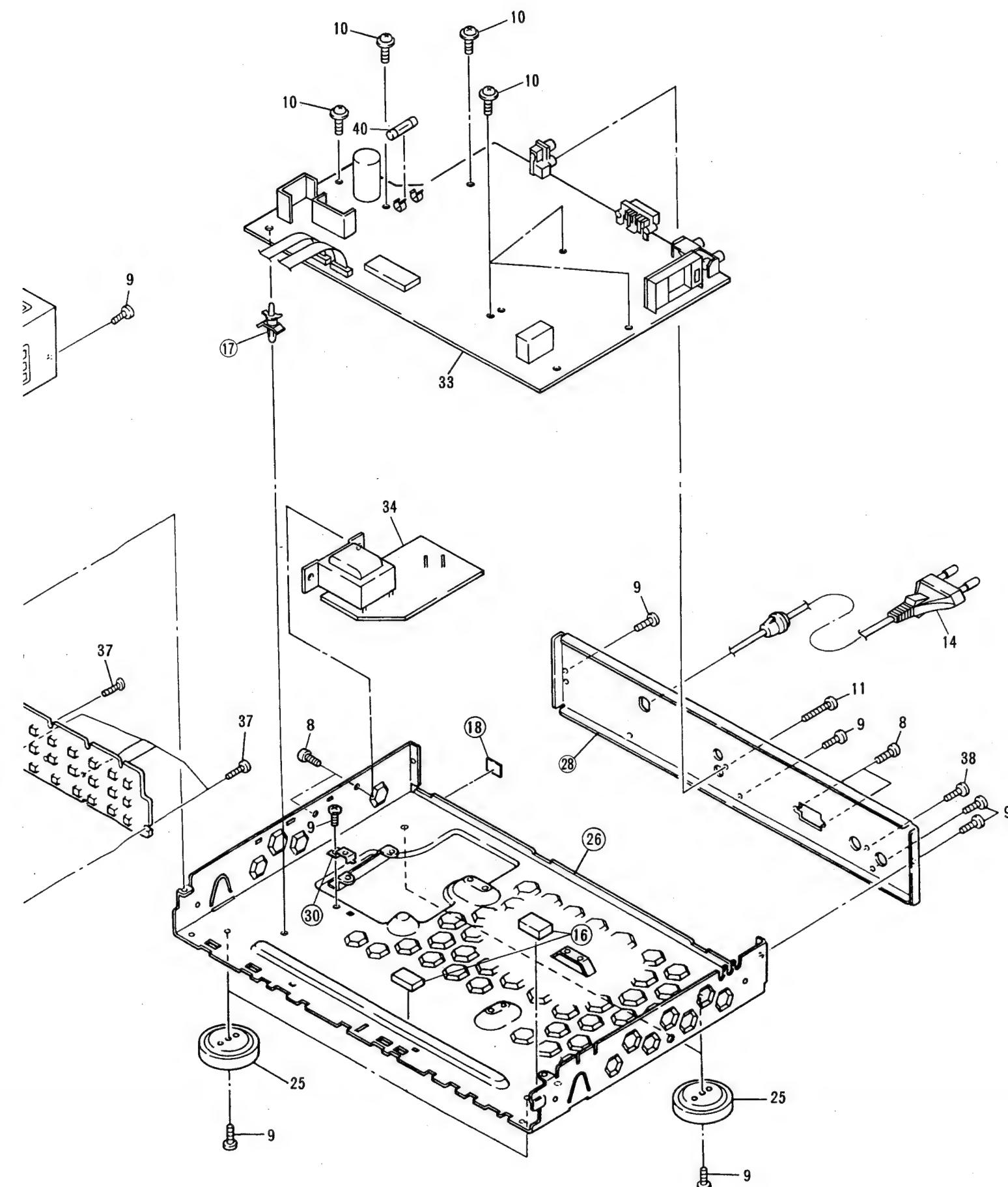
ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a Δ on the schematics and on the parts list in this Service Manual. The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.



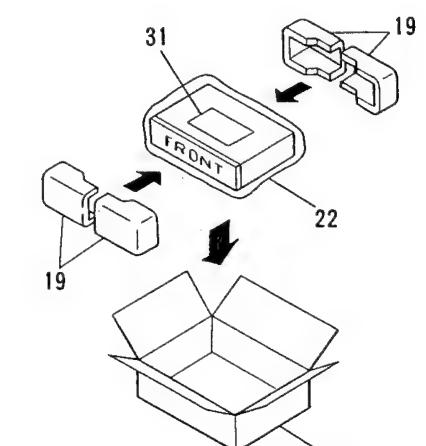
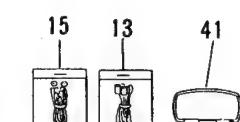
NOTES:

- Parts without part number cannot be supplied.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "○" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Parts List

Mark	No.	Description	Part No.
	1	LIGHT ACTION BUTTON	AAD1733
	2	STATION BUTTON(ABS)	AAD1751 (1/13/25 - 6/18/30)
	3	STATION BUTTON(ABS)	AAD1752 (7/19/31 - 12/24/36)
	4	PANEL	AAK1685
	5	FL FILTER	AAK1785
	6	.....
	7	NAME PLATE (METAL)	AAM1029
	8	SCREW	ABA - 298
	9	SCREW (STEEL)	ABA1009
	10	SCREW (STEEL)	ABA1011
	11	SCREW (STEEL)	ABA1047
	12	SCREW (STEEL)	ABA1048
	13	PLUG CORD	ADE - 044
	14	AC POWER CORD	ADG1010
	15	FM ANTENNA	ADH1002
	16	CUSHION (RUBBER)	
	17	.....
	18	SPACER	
	19	FRONT REAR PAD	
	20	PACKING CASE	AHA1095 AHD2053
	21	.....
	22	PACKING SHEET	AHG1017
	23	PANEL BASE	AMB1815
	24	INDICATING LENS	AMR1160
	25	INSULATOR ASSY	AMR2140
	26	CHASSIS ASSY	
	27	FRONT PANEL	ANB1449
	28	REAR PANEL	
	29	BONNET	AZN1745
	30	PCB HOLDER	
	31	OPERATING INSTRUCTIONS (GERMAN)	ARC1263
	32	.....
△	33	TUNER ASSEMBLY	AWZ3635
△	34	POWER ASSEMBLY	AWZ3639
△	35	DISPLAY ASSEMBLY	AWP1034
	36	SCREW	BBT30P060FZK
	37	SCREW	BPZ26P080FMC
	38	SCREW	VMZ30P060FCU
	39	.....
	40	FU1 FUSE (T400MA)	AEK - 504
	41	L1 LOOP ANTENNA	ATB1006

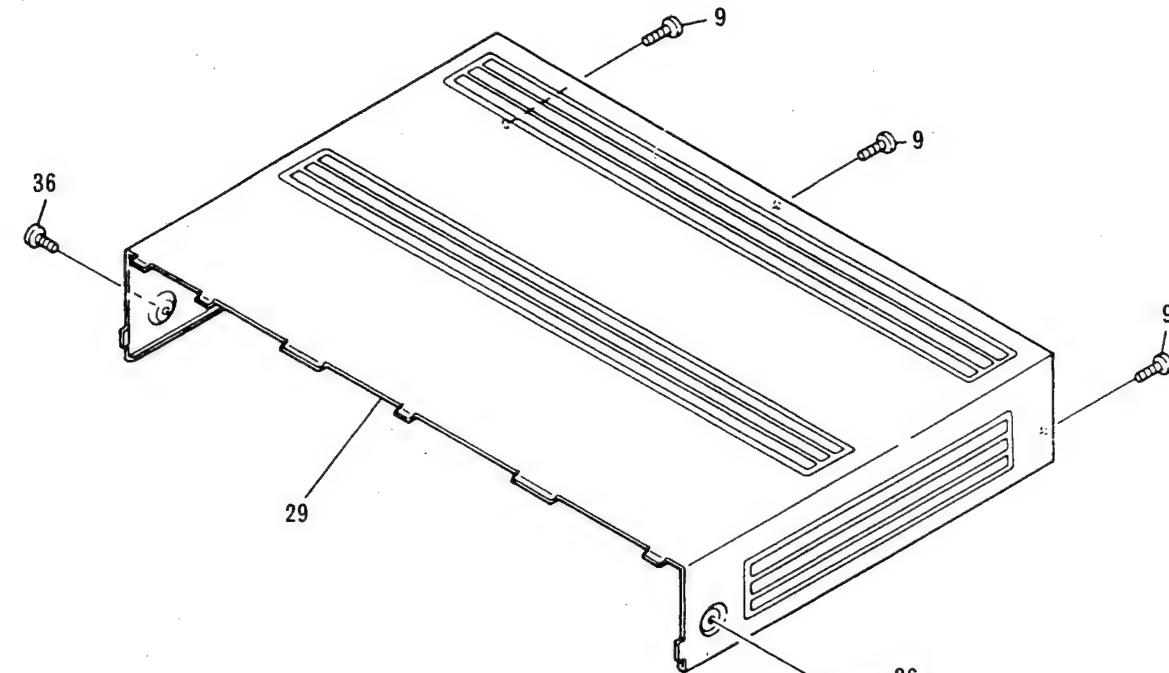
Packing



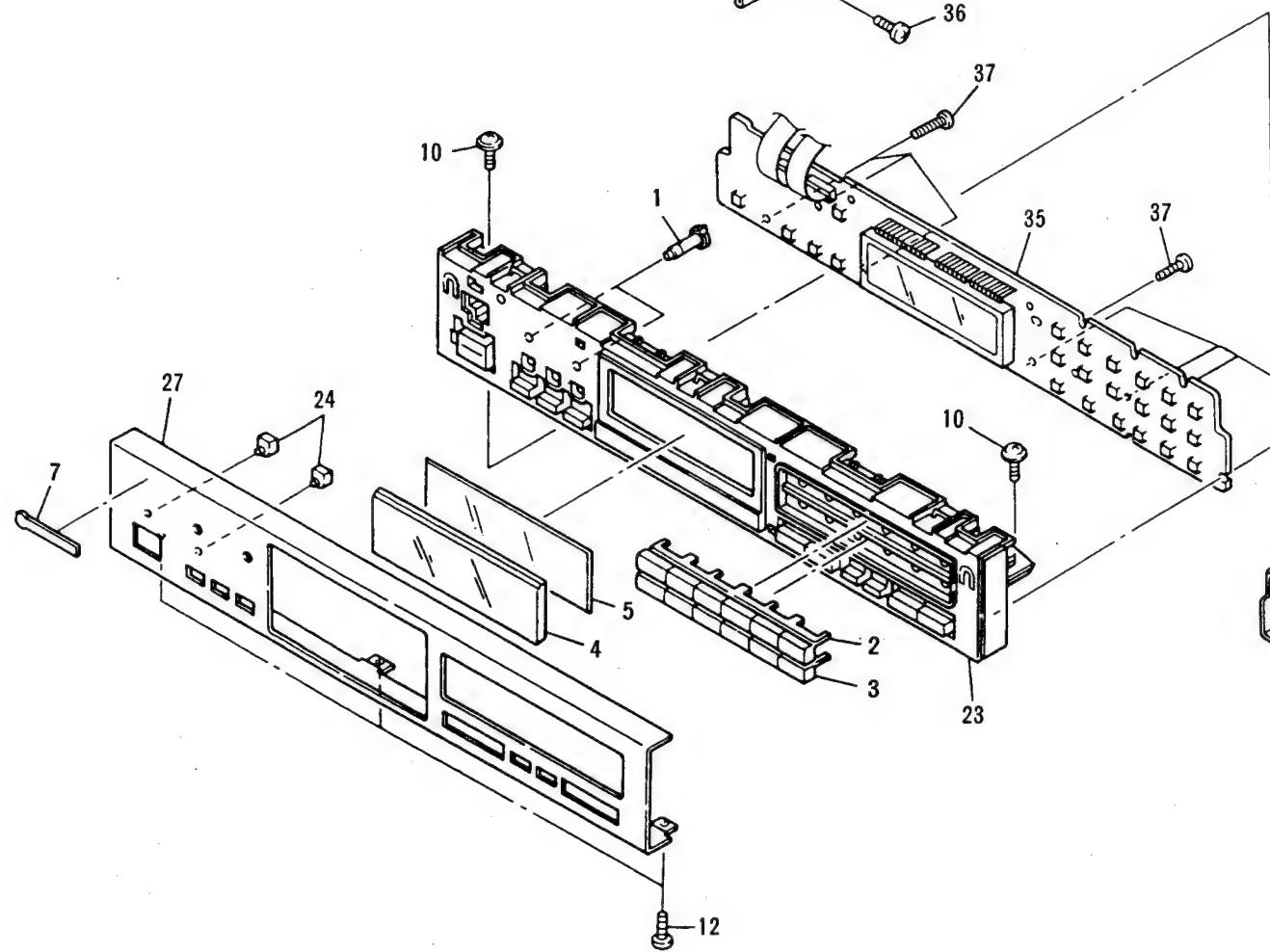
2. EXPLODED VIEWS, PACKING AND PARTS LIST

EXPLODED VIEWS

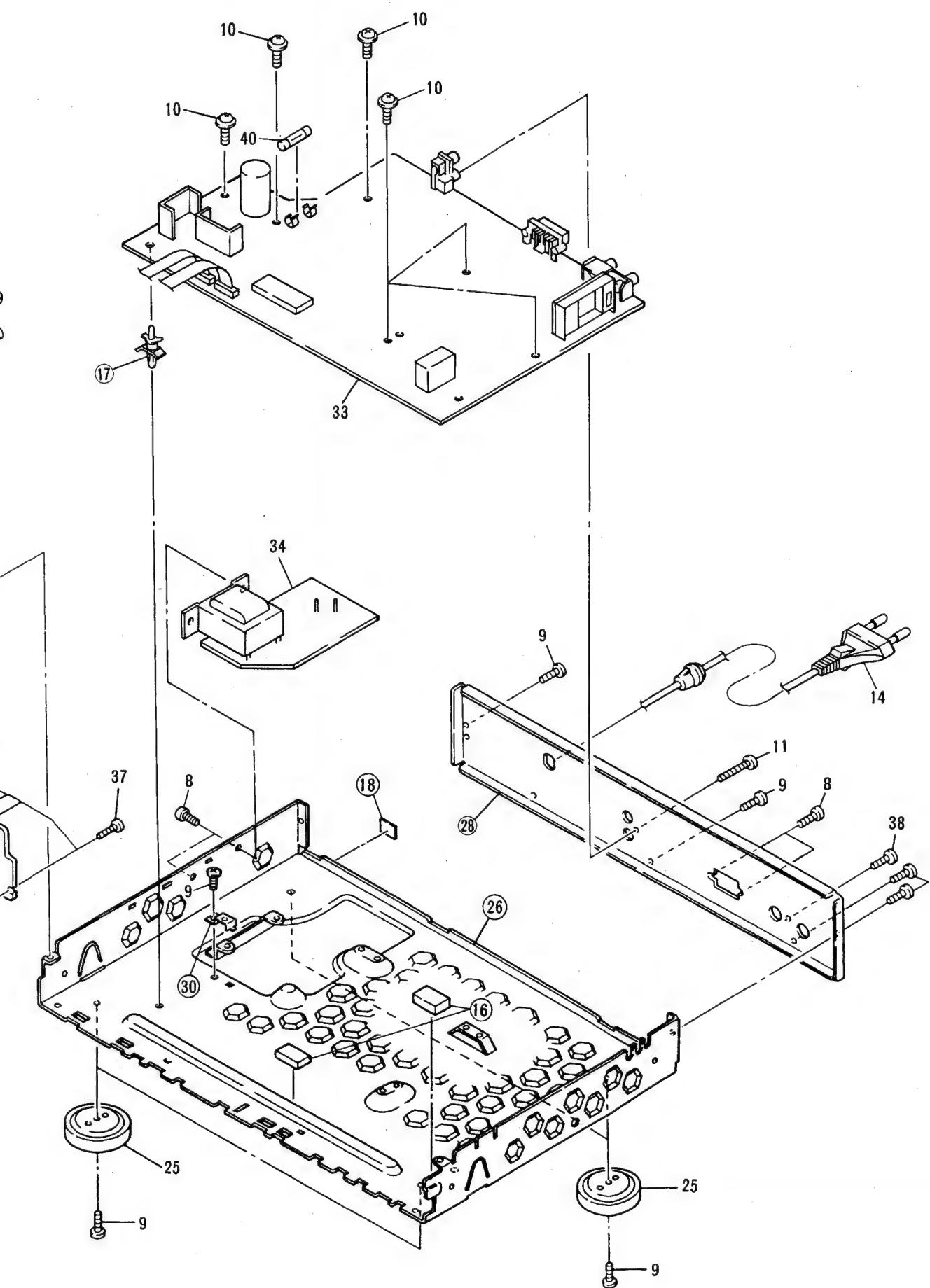
A



B



C



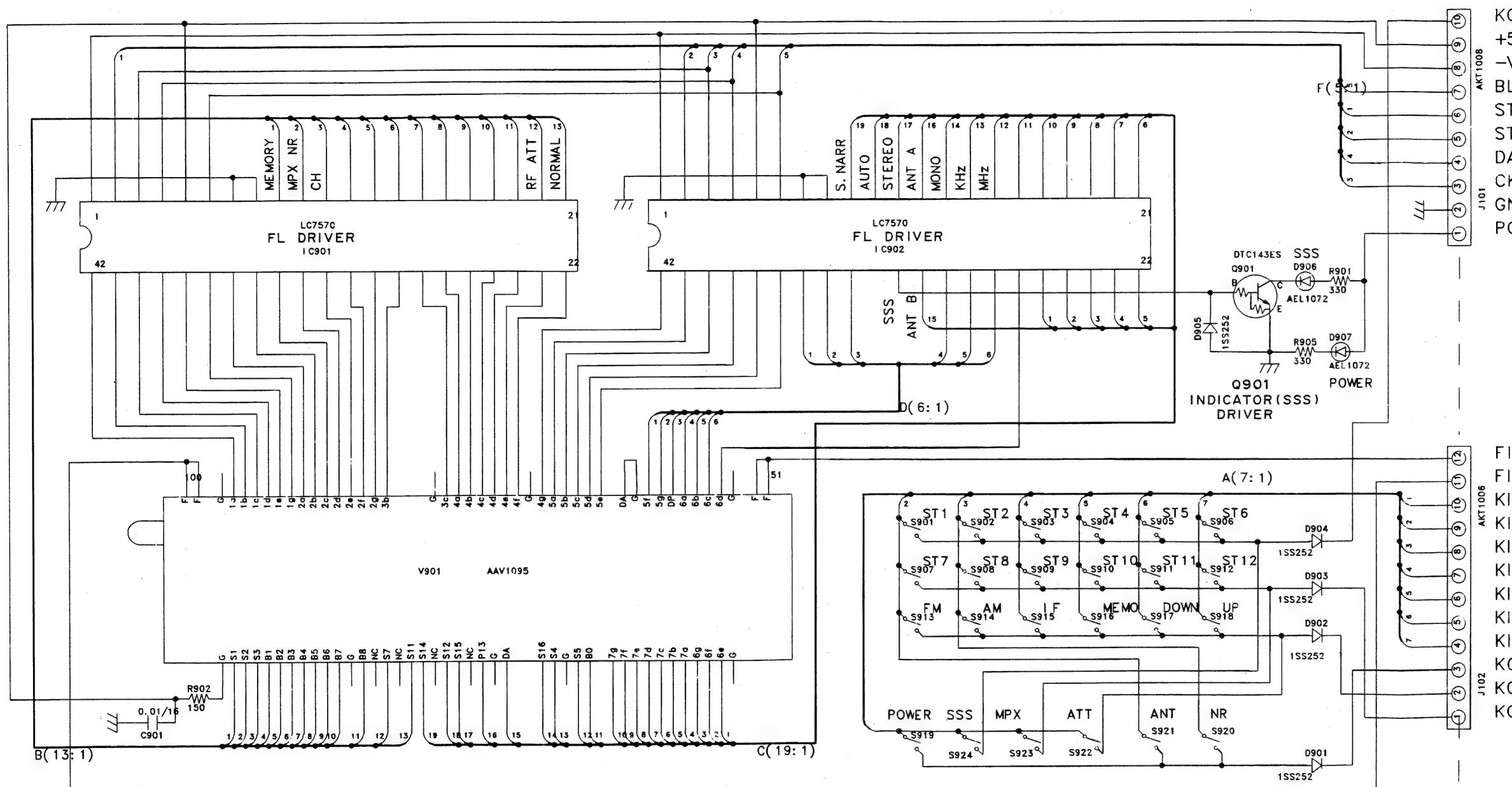
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3. SCHEMATIC DIAGRAM

3.1 DISPLAY ASSEMBLY (AWP1034)

DISPLAY ASSEMBLY (AWP1034)



K01
+5.6V
-VFL
BLANK
ST1
ST2
DATA
CK
GND
POW. IND

F1 L2
F1 L1
K1 1
K1 2
K1 3
K1 4
K1 5
K1 6
K1 7
K04
K03
K02

TO
TUNER
ASSEMBLY
CN101
(→ P13)

TO
TUNER
ASSEMBLY
CN102
(→ P13)

IC151
(TA7060AP)

Pin No.	Volts
1	1.45
2	1.45
3	0
4	9.14
5	11.3

IC152
(TA7060AP)

Pin No.	Volts
1	1.47
2	1.47
3	0.0
4	8.96
5	11.3

IC452
(LA3607)

Pin No.	Volts	Pin No.
1	6.16	11
2	5.65	12
3	6.2	13
4	5.66	14
5	6.2	15
6	5.66	16
7	6.2	17
8	5.65	18
9	6.2	19
10	5.66	20

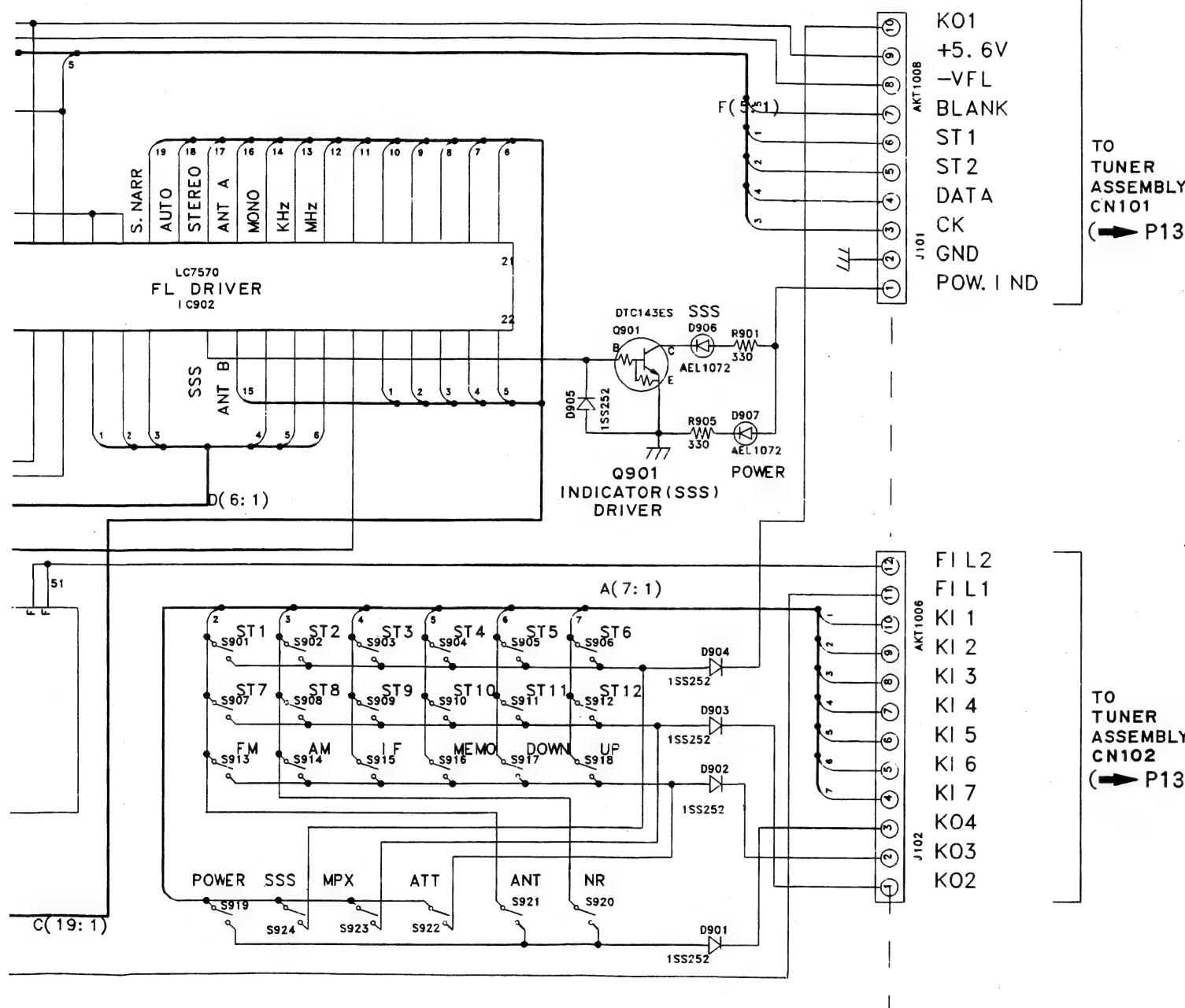
1. RESISTORS :
Indicated in Ω , 1 noted k ; k Ω , M (M) ; $\pm 20\%$ toler

2. CAPACITORS :
Indicated in capaci
Indication withou

3. VOLTAGE CURRE
↔mA ; DC curren
mV ; Signal vol
• The table in th

4. OTHERS :
→ : Signal route.
◎ : Adjusting poi
The Δ mark for
importance of th
replacing, be sure
※ marked capacit

This is the basic
vary due to impr



1. **RESISTORS :**
Indicated in Ω , $1/4W$, $1/8W$, $\pm 5\%$ tolerance unless otherwise noted k ; $k\Omega$, M ; $M\Omega$, (F) ; $\pm 1\%$, (G) ; $\pm 2\%$, (K) ; $\pm 10\%$, (M) ; $\pm 20\%$ tolerance.
2. **CAPACITORS :**
Indicated in capacity (μF) / voltage (V) unless otherwise noted p ; pF .
Indication without voltage is 50V except electrolytic capacitor.
3. **VOLTAGE CURRENT :**
↔mA ; DC current at no input signal.
mV ; Signal voltage at FM $400Hz \pm 75Hz$ DEV.
• The table in the margin shows the DC voltage at no signal.
4. **OTHERS :**
→ ; Signal route.
∅ ; Adjusting point.
The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

IC151
(TA7060AP)

Pin No.	Volts
1	1. 45
2	1. 45
3	0
4	9. 14
5	11. 3

IC 152
(TA7060AP)

Pin No.	Volts
1	1. 47
2	1. 47
3	0. 0
4	8. 96
5	11. 3

IC 452
(LA 3607)

Pin No.	Volts
1	6. 16
2	5. 65
3	6. 2
4	5. 66
5	6. 2
6	5. 66
7	6. 2
8	5. 65
9	6. 2
10	5. 66

IC 452 (LA 3607) IC 453 (N. IM 4558 S) IC454, IC455, IC456 (N. IM 4558 S)

(EA3607)		(NJM4558S)		(NJM4558S)	
Pin No.	Volts	Pin No.	Volts	Pin No.	Volts
1	6. 16	11	6. 11	1	12. 3
2	5. 65	12	5. 64	2	6. 22
3	6. 2	13	5. 11	3	6. 16
4	5. 66	14	5. 64	4	6. 21
5	6. 2	15	6. 42	5	0
6	5. 66	16	5. 64	6	6. 2
7	6. 2	17	6. 64	7	6. 17
8	5. 65	18	12. 3	8	6. 23
9	6. 2	19	6. 6	9	12. 3

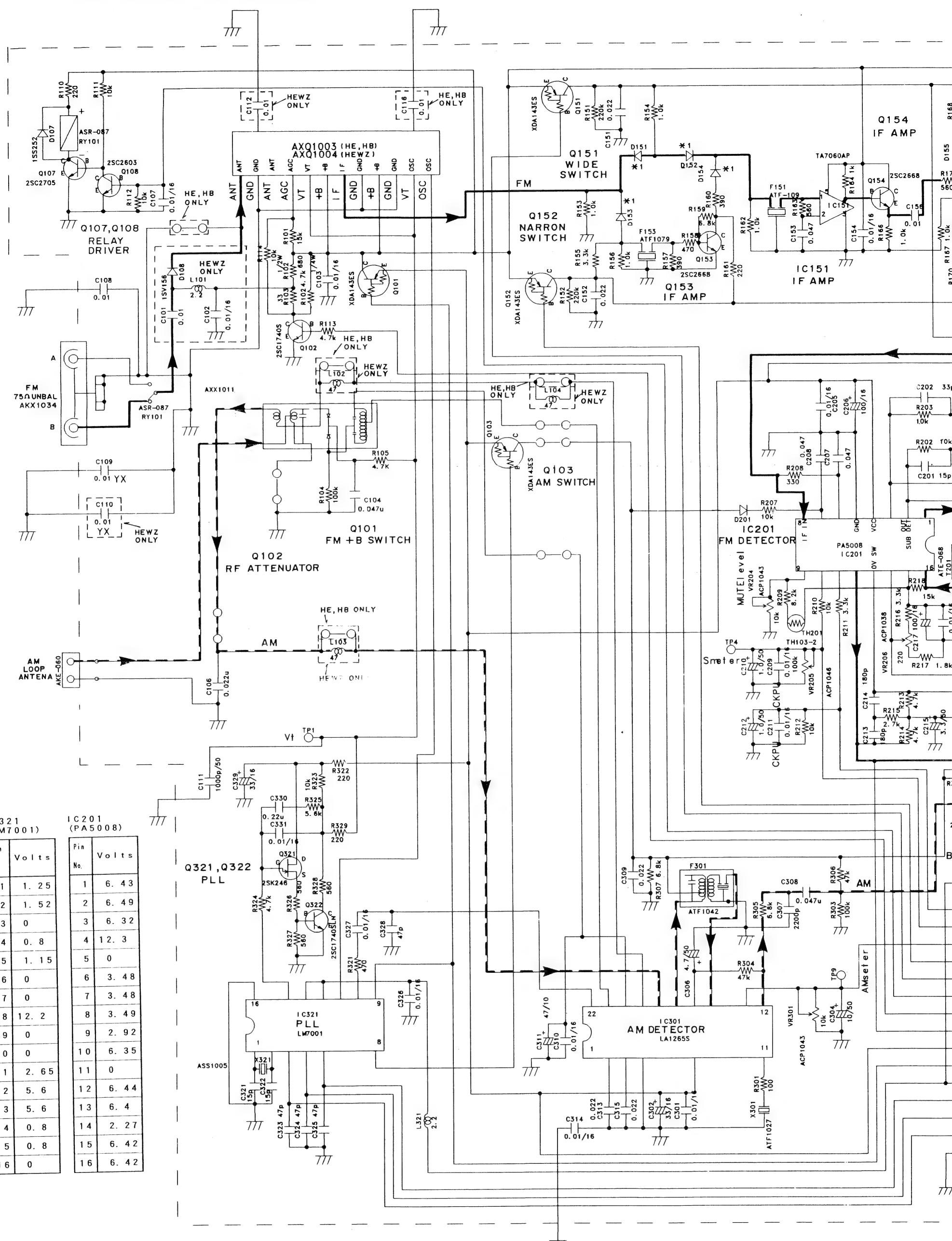
5. SWITCHES (Underline indicates switch position)
DISPLAY ASSEMBLY

S901 : ST1	S913 : FM
S902 : ST2	S914 : AM
S903 : ST3	S915 : IF
S904 : ST4	S916 : MEMO
S905 : ST5	S917 : DOWN
S906 : ST6	S918 : UP
S907 : ST7	S919 : POWER
S908 : ST8	S920 : NR
S909 : ST9	S921 : ANT
S910 : ST10	S922 : ATT
S911 : ST11	S923 : MPX
S912 : ST12	S924 : SSS

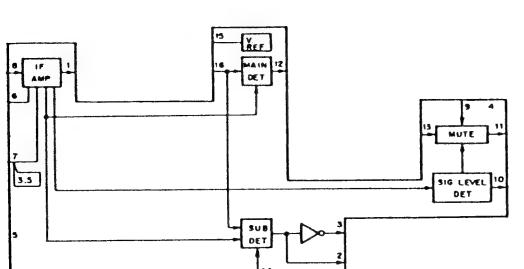
IC451
(PA0042)

Pin No.	Volts	Pin No.	Volts
1	12. 3	16	6. 34
2	6. 13	17	6. 32
3	6. 13	18	6. 35
4	6. 33	19	6. 31
5	6. 33	20	6. 35
6	6. 33	21	6. 31
7	6. 32	22	6. 34
8	6. 35	23	0
9	6. 32	24	0
10	6. 35	25	0
11	6. 32	26	6. 34
12	6. 34	27	6. 34
13	6. 32	28	6. 35
14	6. 35	29	6. 34
15	6. 32	30	0

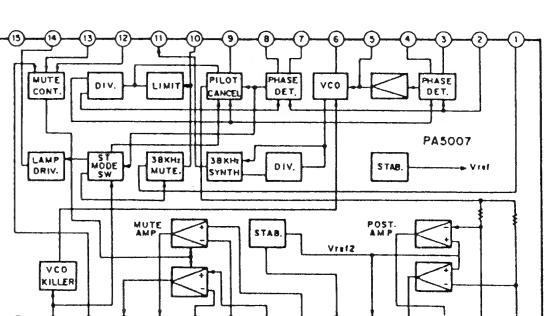
3.2 TUNER ASSEMBLY (1/2) (AWZ3635)



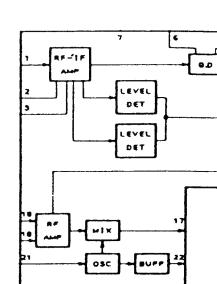
IC201 (PA5008)

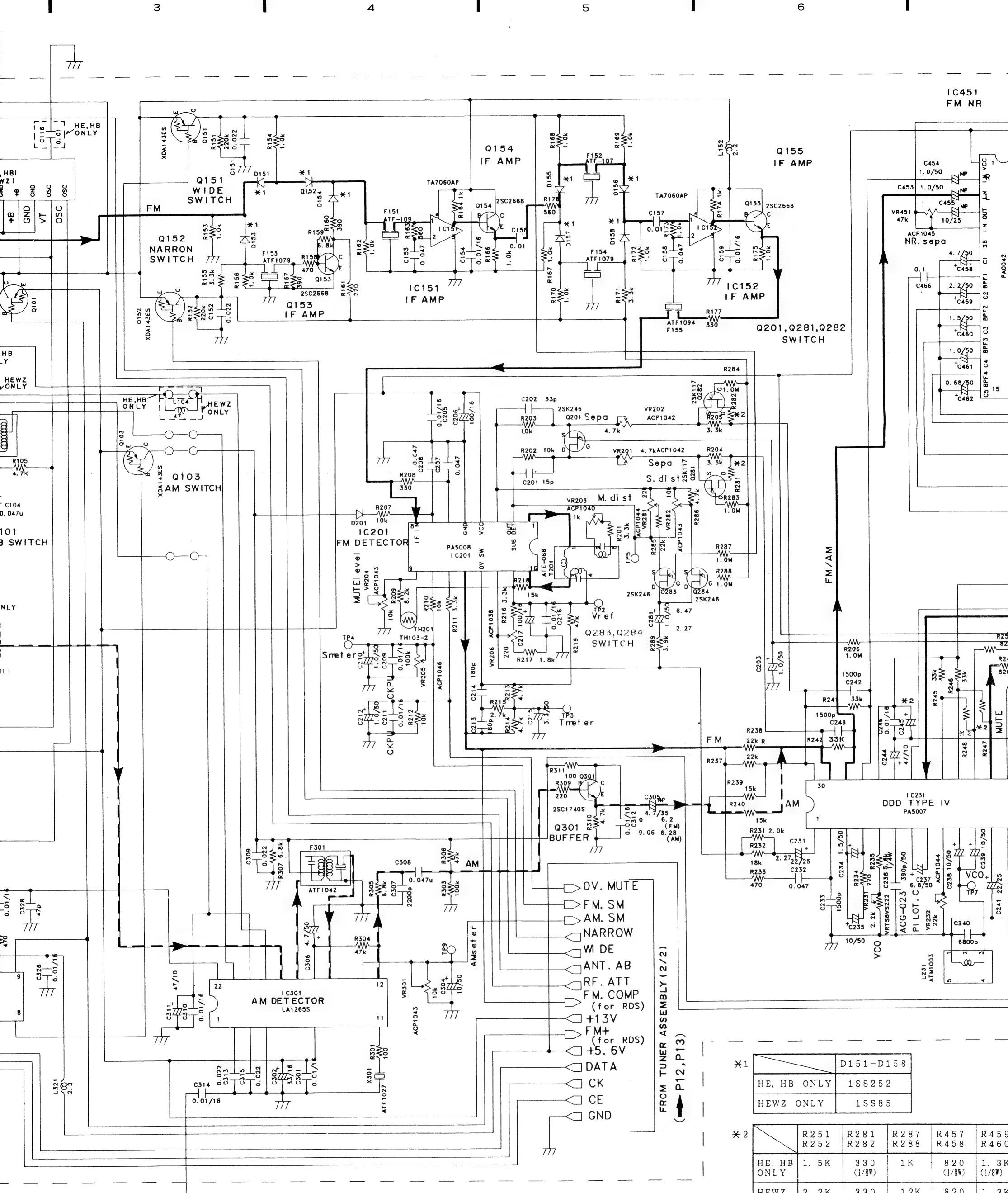


IC231 (PA5007)

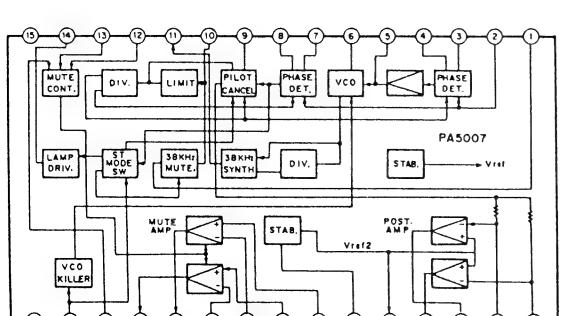


IC301 (LA1265S)

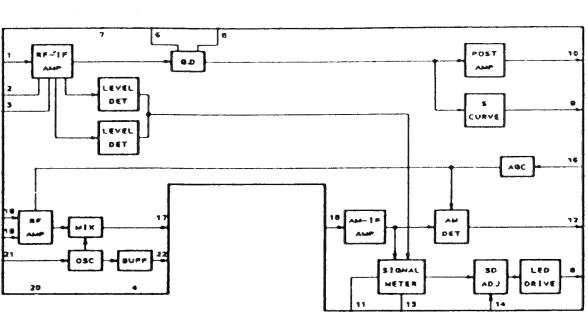




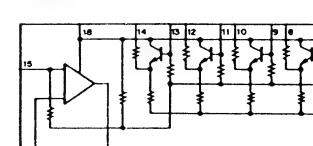
IQ601 (PA5007)



ISO221 (LA106ES)

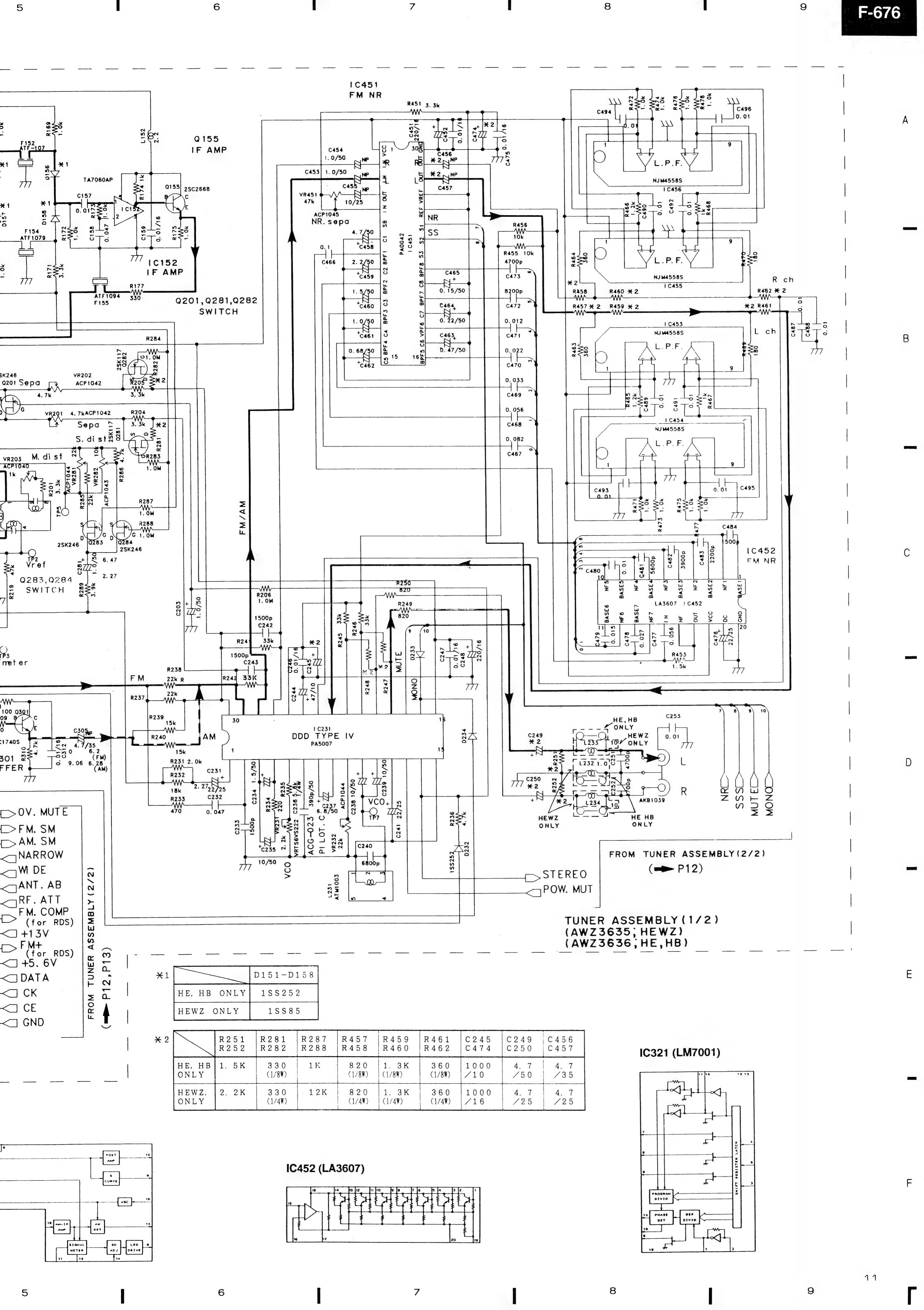


IC452 (LA3607)

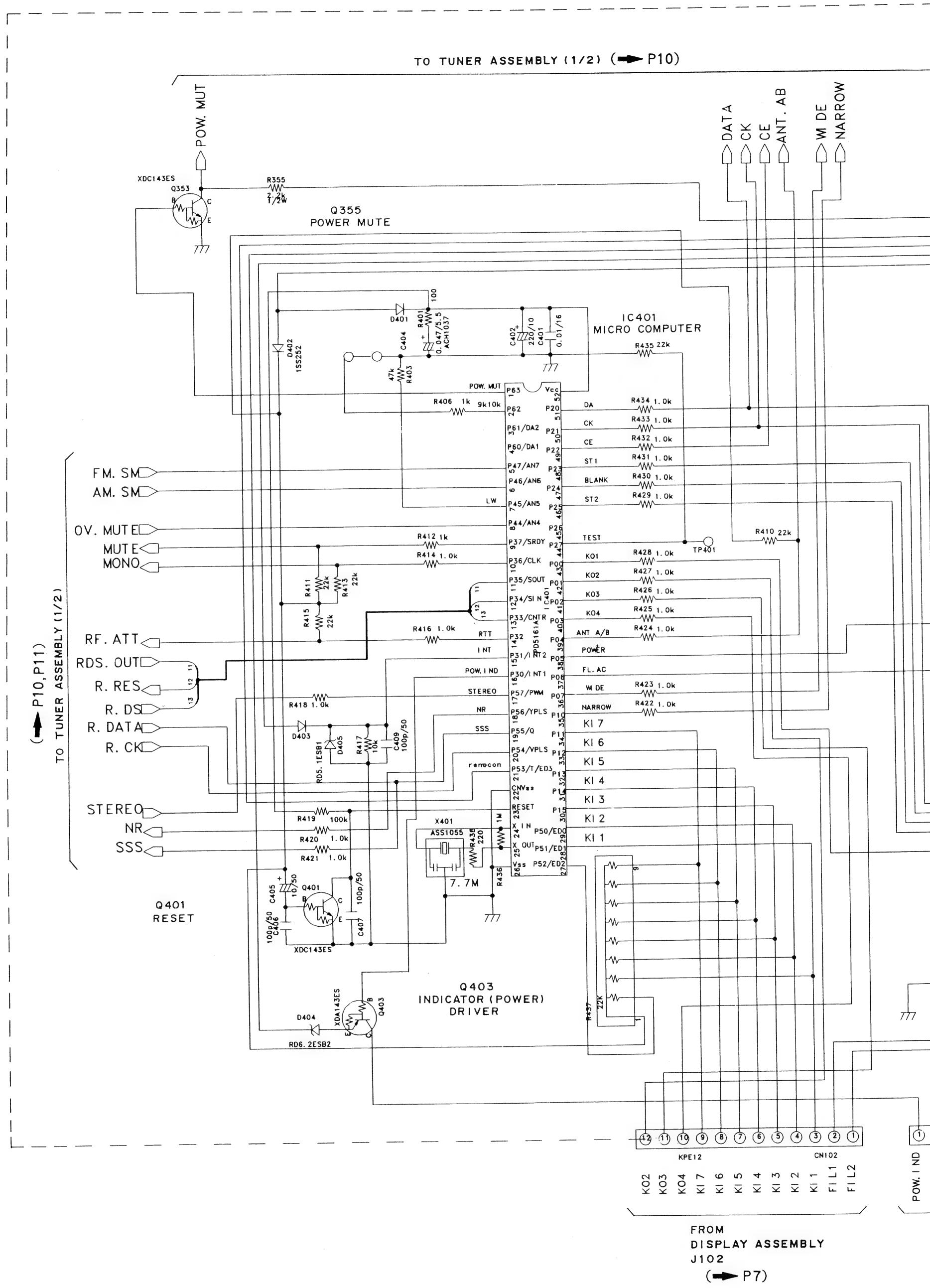


*1		D151-D158
	HE, HB ONLY	1SS252
	HEWZ ONLY	1SS85

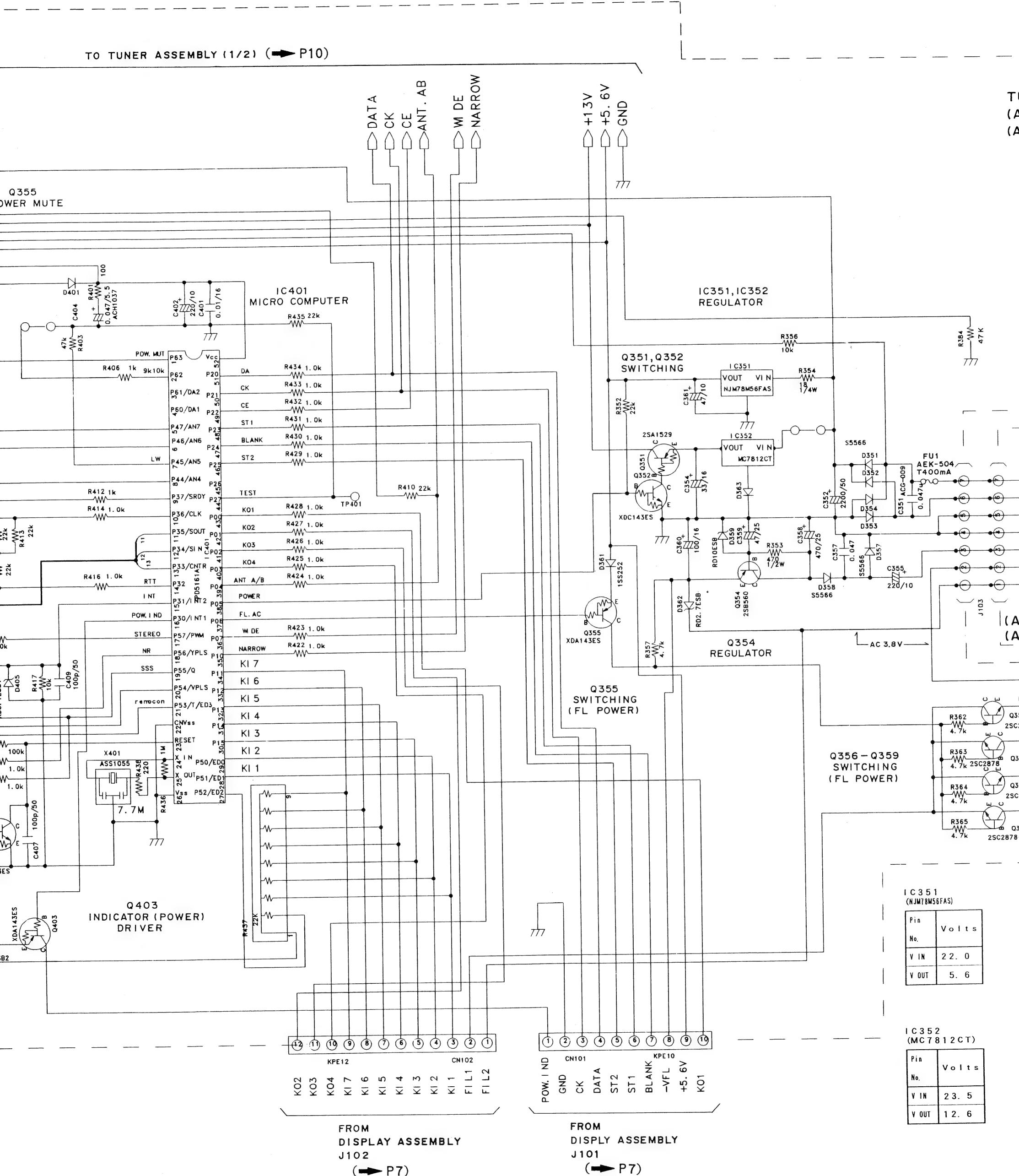
* 2	R 251	R 281	R 287	R 457	R 459
	R 252	R 282	R 288	R 458	R 460
HE, HB ONLY	1. 5K	330 (1/8W)	1K	820 (1/8W)	1. 3K (1/8W)
HEWZ	2. 2K	330	1.2K	820	1. 3K

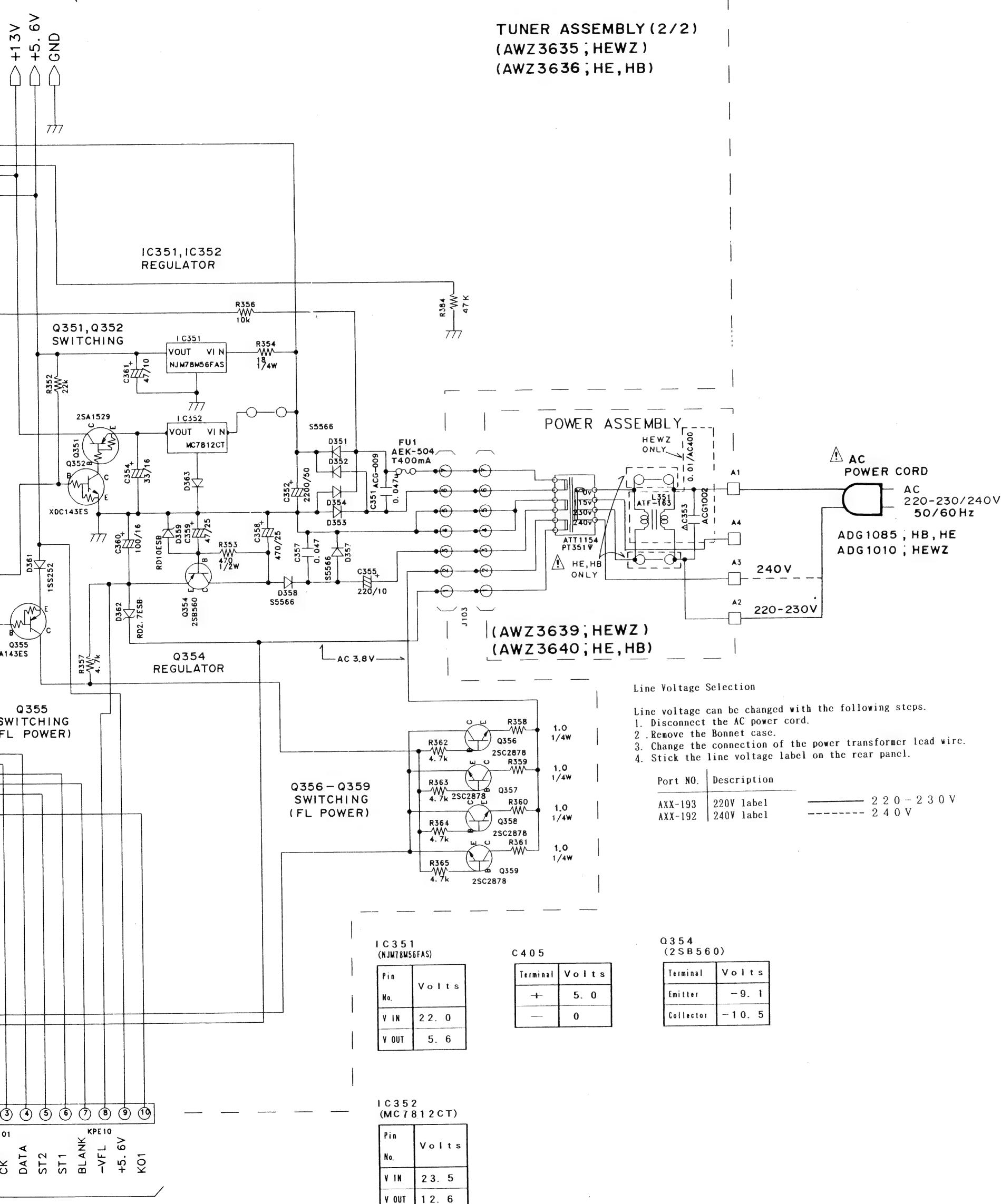


3.3 TUNER ASSEMBLY (2/2) (AWZ3635) AND POWER ASSEMBLY (AWZ3639)



BLY (AWZ3639)





4. P.C. BOARDS CONNECTION DIAGRAM

1

2

11

4

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6

A

NOTE

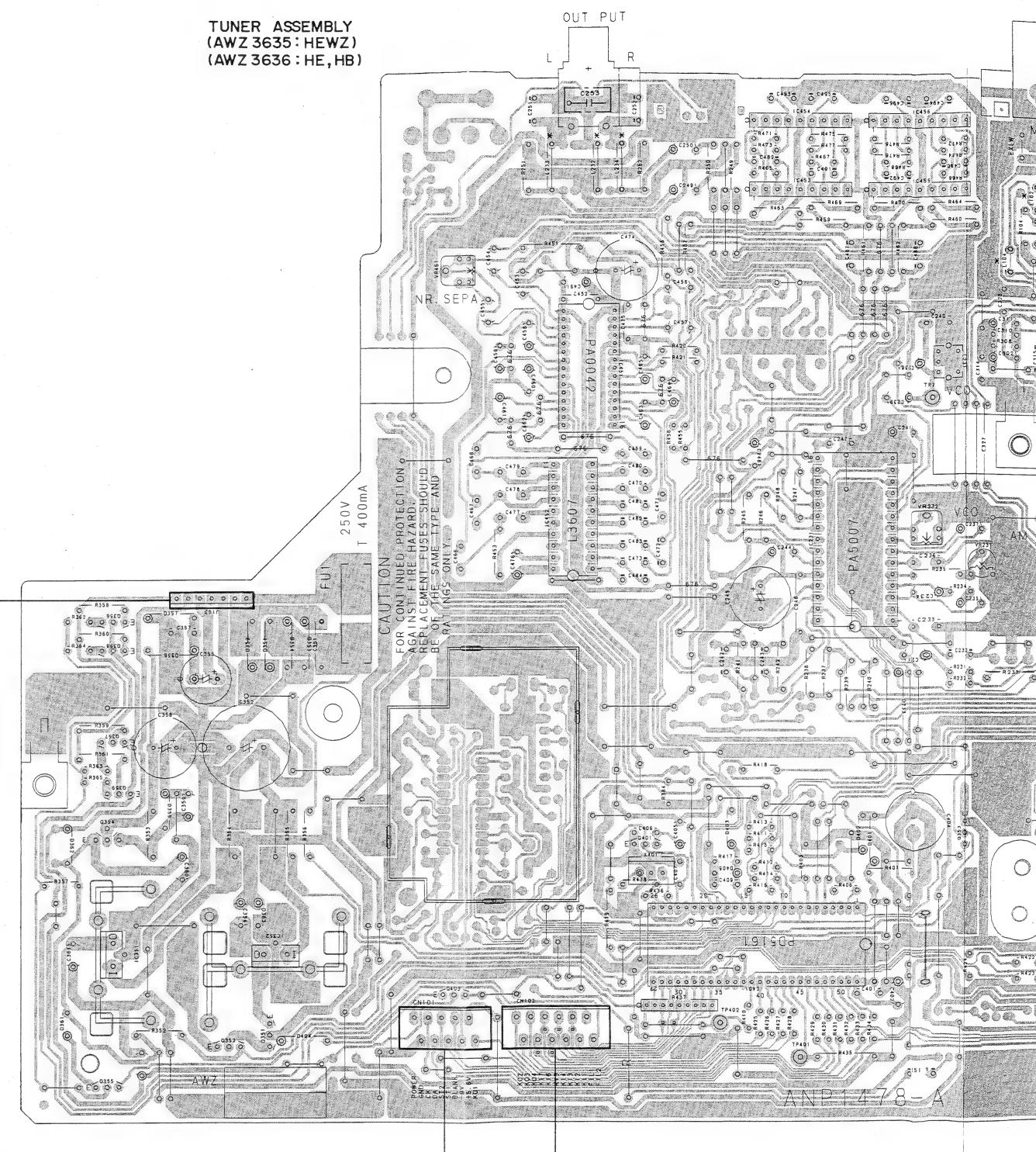
1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
		Transistor
		Radiator type transistor
		Diode
		Resistor
		Capacitor (Polarity)
		Capacitor (Non-polarity)

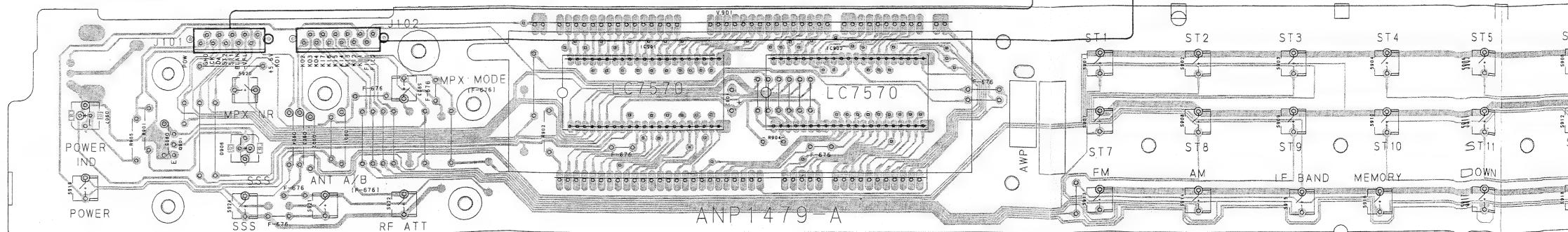
Others	
P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

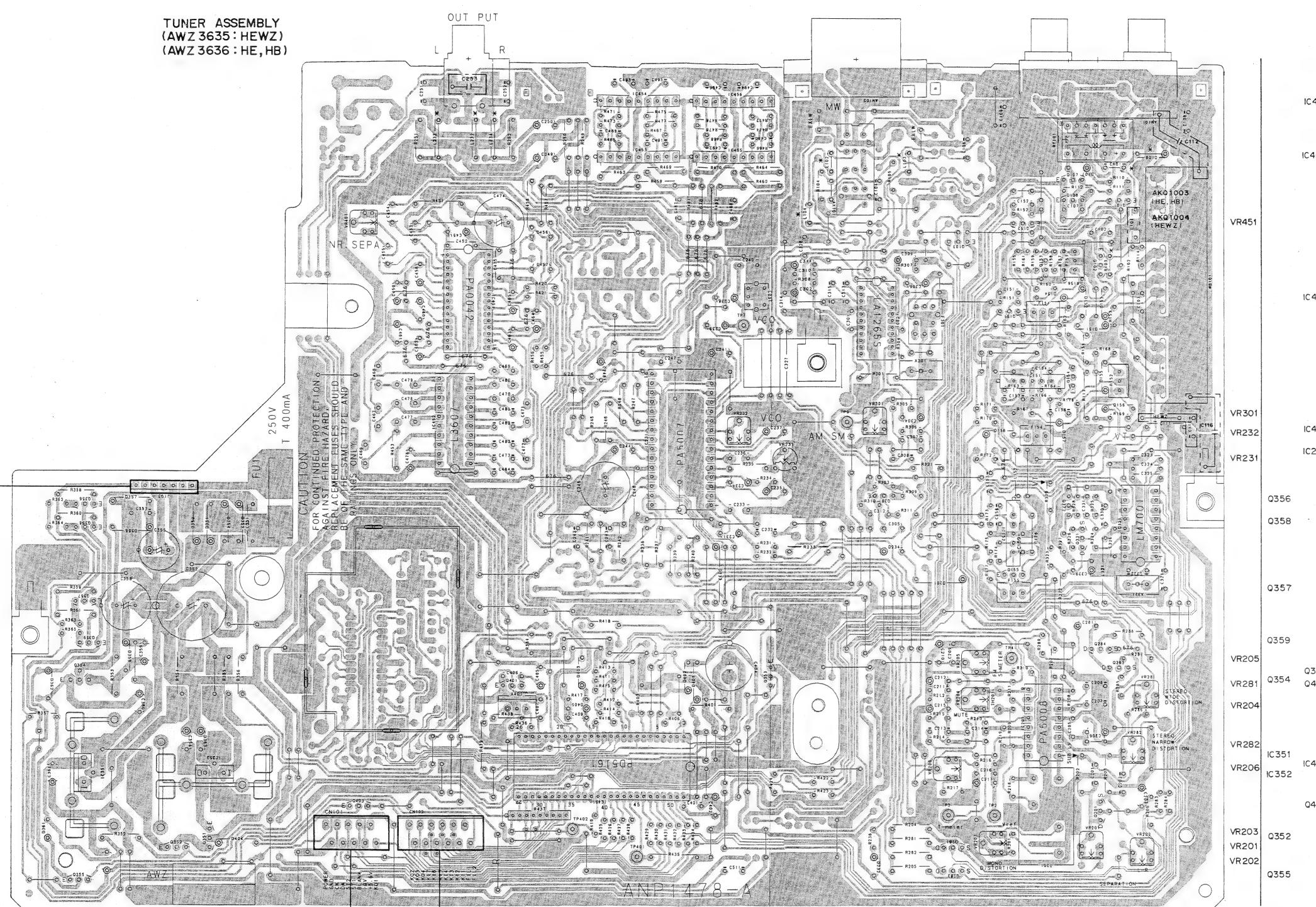
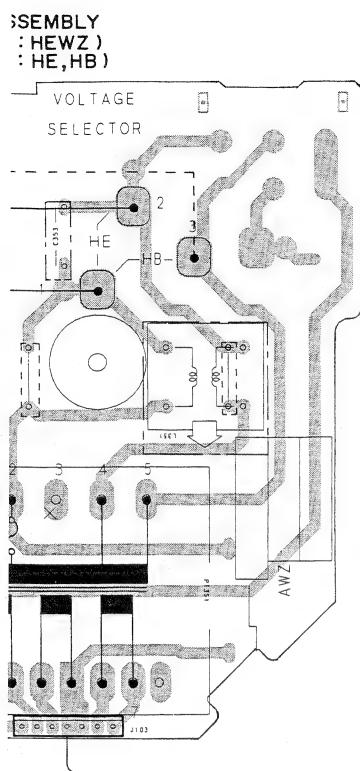
3. The capacitor terminal marked with shows negative terminal.
4. The diode terminal marked with shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

**TUNER ASSEMBLY
(AWZ 3635 : HEWZ)
(AWZ 3636 : HE, HB)**



DISPLAY ASSEMBLY(AWP 1034)



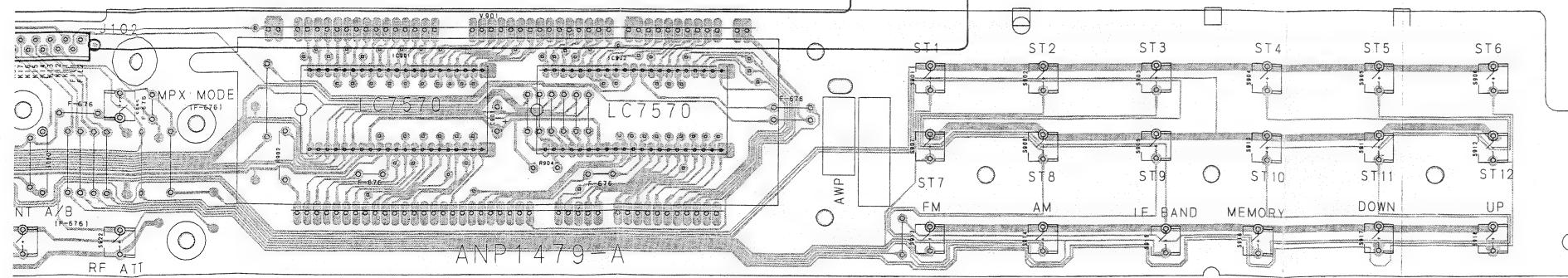


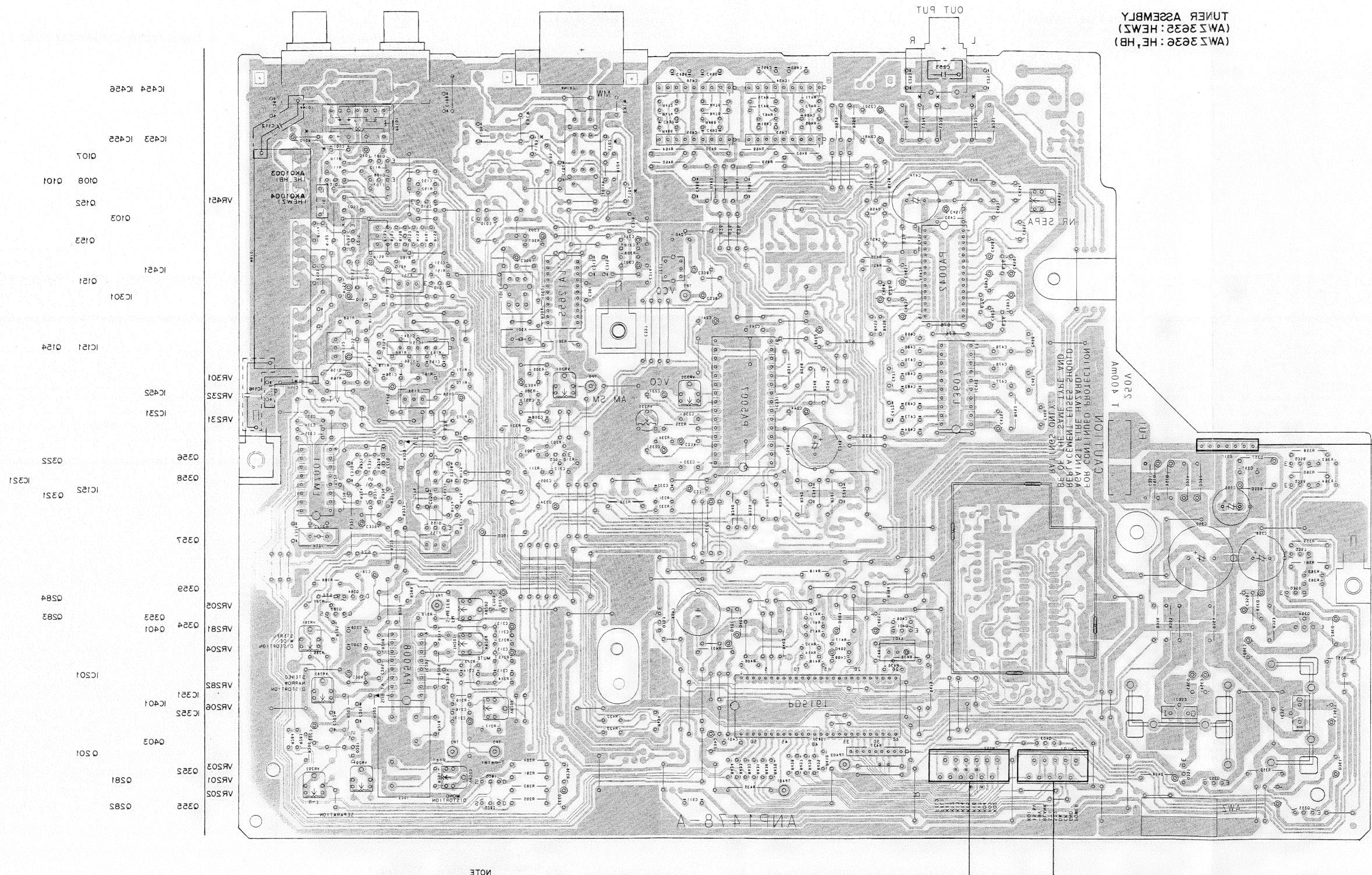
IC454 IC456
IC453 IC455
Q107
Q108 Q101
Q152
Q103
Q153
IC451
Q151
IC301
IC151 Q154
IC452
IC231
Q356 Q322
Q358 IC152 Q321
Q357
Q359 Q284
VR205 Q353 Q283
VR281 Q354 Q401
VR204
VR282 IC201
VR206 IC351 IC401
VR203 IC352 Q403
VR201 Q201
VR202 Q281
Q355 Q282

NOTE
[] : HEWZ ONLY
[---] : HE,HB ONLY

*

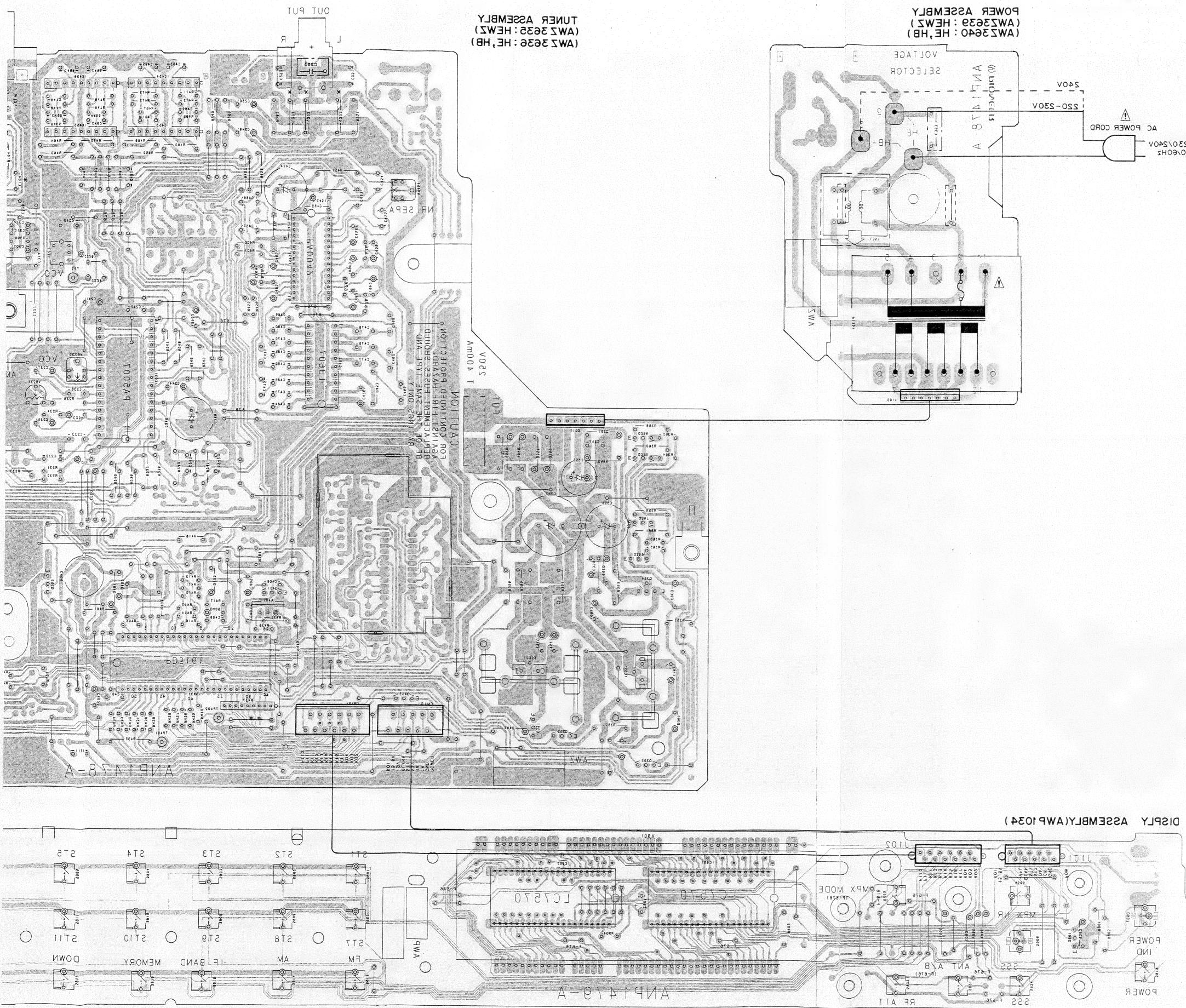
	L102	L232	D101	D103	D105	D108	C101	R103
HE, HB ONLY	JUMPER	JUMPER	UESD	JUMPER	JUMPER	USED	USED	USED
HEWZ, ONLY	USED	USED	JUMPER	USED	USED	USED	USED	USED





A. P.C. BOARDS CONNECTION DIAGRAM

- View from soldering side



5. P.C.B's PARTS LIST

NOTES:

- Parts without part number cannot be supplied.
- Parts marked by “ \odot ” are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%)

560 Ω	$\rightarrow 56 \times 10^1 \rightarrow 561$	.....	RD1/4PS 5 6 1 J
47k Ω	$\rightarrow 47 \times 10^3 \rightarrow 473$	.....	RD1/4PS 4 7 3 J
0.5 Ω	$\rightarrow 0R5$	.....	RN2H 0 R 5 K
1 Ω	$\rightarrow 010$	.....	RS1P 0 1 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω	$\rightarrow 562 \times 10^1 \rightarrow 5621$	RN1/4SR 5 6 2 1 F
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Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
◎ TUNER ASSEMBLY(AWZ3635)							
		SEMICONDUCTORS				RELAYS	
		IC151, 152 AMPLIFIER IC	TA7060AP		D232-234 DIODE	1SS252	
		IC201 FM IC	PA5008	Δ	D351-354 DIODE	S5566	
		IC231 MPX IC	PA5007	Δ	D357, 358 DIODE	S5566	
		IC301 AM/FM IC	LA1265S		D359 ZENER DIODE	RD10ESB	
		IC321 PLL IC	LM7001		D361 DIODE	1SS252	
		IC351 REGULATOR IC	NJM78M56FAS		D362 ZENER DIODE	RD2.1ESB	
		IC352 REGULATOR IC	MC7812CT		D363 DIODE	1SS252	
		IC401	PD5161A		D401-403 DIODE	1SS252	
		IC451 FM-NR	PA0042		D404 ZENER DIODE	RD6.2ESB2	
		IC452 GEQ IC	LA3607		D405 ZENER DIODE	RD5.1ESB1	
		IC453-456 OP-AMP IC	NJM4558S-X		TH201 THERMISTOR	TH103-2	
		Q101 TRANSISTOR	XDA143ES		RY101 RELAY	ASR-087	
		Q102 TRANSISTOR	2SC1740S				
		Q103 TRANSISTOR	XDA143ES		COILS/TRANSFORMERS		
		Q107 TRANSISTOR	2SC2705		L101 AXIAL INDUCTOR	LAU2R2M	
		Q108 TRANSISTOR	2SC2603		L102-104 AXIAL INDUCTOR	LAU4D0K	
		Q151, 152 TRANSISTOR	XDA143ES		L152 AXIAL INDUCTOR	LAU2R2M	
		Q153-155 TRANSISTOR	2SC2668		L231 COIL	ATM103	
		Q201 N-FET	2SK246		L232 AXIAL INDUCTOR	LAU01DM	
		Q281, 282 N-FET	2SK117		L233, 234 AXIAL INDUCTOR	LAU10K	
		Q283, 284 N-FET	2SK246		L321 AXIAL INDUCTOR	LAU2R2M	
		Q301 TRANSISTOR	2SC1740S		T201 IF TRANSFORMER	ATE-058	
		Q321 N-FET	2SK246		F151 CERAMIC FILTER	ATF-109	
		Q322 TRANSISTOR	2SC1740SLN		F152 CERAMIC FILTER	ATF-107	
		Q351 TRANSISTOR	2SA1529		F153, 154 CERAMIC FILTER	ATF1079	
		Q352, 353 TRANSISTOR	XDC143ES		F155 CERAMIC FILTER	ATF1074	
		Q354 TRANSISTOR	2SB560		F301 CERAMIC FILTER	ATF1072	
		Q355 TRANSISTOR	XDA143ES		CAPACITORS		
		Q356-359 TRANSISTOR	2SC2878		C101 CERAMIC CAPACITOR	CKDYX103M25	
		Q401 TRANSISTOR	XDC143ES		C102, 103 CERAMIC CAPACITOR	CKPUY103M16	
		Q403 TRANSISTOR	XDA143ES		C104 CERAMIC CAPACITOR	CKDYX73250	
		D107 DIODE	1SS252		C106 CERAMIC CAPACITOR	CKDYX23250	
		D108 DIODE	1SV156		C107 CERAMIC CAPACITOR	CKPUY103M16	
		D151-158 DIODE	1SS85		C108-110 CERAMIC CAPACITOR	CKDYX103M25	
		D201 DIODE	1SS252		C111 CERAMIC CAPACITOR	CKPUY102K50	
					C112 CERAMIC CAPACITOR	CKDYX103M25	
					C151, 152 CERAMIC CAPACITOR	CKDYX23250	

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	C153	CERAMIC CAPACITOR	CKDYX473M25		C326, 327	CERAMIC CAPACITOR	CKPUYY103M16
	C154	CERAMIC CAPACITOR	CKPUYY103M16		C328	AXIAL CERAMIC C.	CCPUSL470J50
	C156, 157	CERAMIC CAPACITOR	CKDYX103M25		C329	ELECTR. CAPACITOR	CEAS330M16
	C158	CERAMIC CAPACITOR	CKDYX473M25		C330	AUDIO FILM CAPACITOR	CFTXA224J50
	C159	CERAMIC CAPACITOR	CKPUYY103M16	△	C331	CERAMIC CAPACITOR	CKPUYY103M16
	C201	CERAMIC CAPACITOR	CCMCH150J50		C351	CAPACITOR (CERAMIC)	ACG-009
	C202	CERAMIC CAPACITOR	CCMCH330J50		C352	ELECTR. CAPACITOR	CEAS222M50
	C203	ELECTR. CAPACITOR	CEAS010M50		C354	ELECTR. CAPACITOR	CEAS330M16
	C205	CERAMIC CAPACITOR	CKPUYY103M16		C355	ELECTR. CAPACITOR	CEAS221M10
	C206	ELECTR. CAPACITOR	CEEA101M16		C357	CERAMIC CAPACITOR	CKDYF473Z50
	C207, 208	CERAMIC CAPACITOR	CKDYX473M25		C358	ELECTR. CAPACITOR	CEAS471M25
	C209	CERAMIC CAPACITOR	CKPUYY103M16		C359	ELECTR. CAPACITOR	CEAS470M25
	C210	ELECTR. CAPACITOR	CEAS010M50		C360	ELECTR. CAPACITOR	CEAS101M16
	C211	CERAMIC CAPACITOR	CKPUYY103M16		C361	ELECTR. CAPACITOR	CEAS470M10
	C212	ELECTR. CAPACITOR	CEAS010M50		C401	CERAMIC CAPACITOR	CKPUYY103M16
	C213, 214	CERAMIC CAPACITOR	CKMYB181K50		C402	ELECTR. CAPACITOR	CEAS221M10
	C215	ELECTR. CAPACITOR	CEAS3R3M50		C404	CEA (47000/5.5V)	ACH1037
	C216	CERAMIC CAPACITOR	CKPUYY103M16		C405	ELECTR. CAPACITOR	CEAS100M50
	C217	ELECTR. CAPACITOR	CEEA101M16		C406, 407	CERAMIC CAPACITOR	CKPUYB101K50
	C231	ELECTR. CAPACITOR	CEAS220M25		C409	CERAMIC CAPACITOR	CKPUYB101K50
	C232	AUDIO FILM CAPACITOR	CFTXA473J50		C451	ELECTR. CAPACITOR	CEEA221M16
	C233	CERAMIC CAPACITOR	CKDYB152K50		C452	CERAMIC CAPACITOR	CKPUYY103M16
	C234	ELECTR. CAPACITOR	CEAS1R5M50		C453, 454	ELECTR. CAPACITOR	CEEANP010M50
	C235	ELECTR. CAPACITOR	CEAS100M50		C455	ELECTR. CAPACITOR	CEANP100M25
	C236	CKA (390P/50V)	ACG-023		C456, 457	ELECTR. CAPACITOR	CEEANP4R7M25
	C237	ELECTR. CAPACITOR	CEAS6R8M50		C458	ELECTR. CAPACITOR	CEAS4R7M50
	C238, 239	ELECTR. CAPACITOR	CEAS100M50		C459	ELECTR. CAPACITOR	CEAS2R2M50
	C240	PL. STYRENE CAPACITOR	CQSA682J50		C460	ELECTR. CAPACITOR	CEAS1R5M50
	C241	ELECTR. CAPACITOR	CEAS220M25		C461	ELECTR. CAPACITOR	CEAS010M50
	C242, 243	MYLOR FILM CAPACITOR	CQMA152J50		C462	ELECTR. CAPACITOR	CEASR68M50
	C244	ELECTR. CAPACITOR	CEAS470M10		C463	ELECTR. CAPACITOR	CEASR47M50
	C245	ELECTR. CAPACITOR	CEEA102M16		C464	ELECTR. CAPACITOR	CEASR22M50
	C246, 247	CERAMIC CAPACITOR	CKPUYY103M16		C465	ELECTR. CAPACITOR	CEASR15M50
	C248	ELECTR. CAPACITOR	CEEA221M16		C466	CERAMIC CAPACITOR	CKDYX104M25
	C249, 250	ELECTR. CAPACITOR	CEEA4R7M25		C467	CERAMIC CAPACITOR	CKDYX823M25
	C251, 252	CERAMIC CAPACITOR	CKDYB472K50		C468	CERAMIC CAPACITOR	CKDYX563M25
	C253	CERAMIC CAPACITOR	CKDYX103M25		C469	CERAMIC CAPACITOR	CKDYX333M25
	C281	ELECTR. CAPACITOR	CEAS100M50		C470	CERAMIC CAPACITOR	CKDYX223M25
	C301	CERAMIC CAPACITOR	CKPUYY103M16		C471	CERAMIC CAPACITOR	CKDYX123M25
	C302	ELECTR. CAPACITOR	CEAS330M16		C472	CERAMIC CAPACITOR	CKDYB822K50
	C304	ELECTR. CAPACITOR	CEAS100M50		C473	CERAMIC CAPACITOR	CKDYB472K50
	C305	ELECTR. CAPACITOR	CEANP4R7M35		C474	ELECTR. CAPACITOR	CEEA102M16
	C306	ELECTR. CAPACITOR	CEAS4R7M50		C475	CERAMIC CAPACITOR	CKPUYY103M16
	C307	CERAMIC CAPACITOR	CKDYB222K50		C476	ELECTR. CAPACITOR	CEAS220M25
	C308	CERAMIC CAPACITOR	CKDYX473M25		C477	CERAMIC CAPACITOR	CKDYX563M25
	C309	CERAMIC CAPACITOR	CKDYF223Z50		C478	CERAMIC CAPACITOR	CKDYX273M25
	C310	CERAMIC CAPACITOR	CKPUYY103M16		C479	CERAMIC CAPACITOR	CKDYX153M25
	C311	ELECTR. CAPACITOR	CEAS470M10		C480	CERAMIC CAPACITOR	CKDYX103M25
	C312	CERAMIC CAPACITOR	CKPUYY103M16		C481	CERAMIC CAPACITOR	CKDYB562K50
	C313	CERAMIC CAPACITOR	CKDYF223Z50		C482	CERAMIC CAPACITOR	CKDYB392K50
	C314	CERAMIC CAPACITOR	CKPUYY103M16		C483	CERAMIC CAPACITOR	CKDYB222K50
	C315	CERAMIC CAPACITOR	CKDYF223Z50		C484	CERAMIC CAPACITOR	CKDYB152K50
	C321, 322	CERAMIC CAPACITOR	CCMCH150J50		C487-496	MYLOR FILM CAPACITOR	CQMA103J50
	C323-325	AXIAL CERAMIC C.	CCPUSL470J50				

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
RESISTORS							
	R101	CARBONFILM RESISTOR	RD1/8PM□□□J			SCREW	ABA-298
	R102	CARBONFILM RESISTOR	RD1/2PM□□□J			PIN JACK(2P)	AKB1039
	R103-105	CARBONFILM RESISTOR	RD1/8PM□□□J			TERMINAL 2-P	AKE-060
	R110-113	CARBONFILM RESISTOR	RD1/8PM□□□J			SOCKET	AKX1034
	R151-164	CARBONFILM RESISTOR	RD1/8PM□□□J			FRONT END MODULE ASSEMBLY	AXQ1004
	R166-175	CARBONFILM RESISTOR	RD1/8PM□□□J			AM RF TUNING BLOCK	AXX1011
	R177, 178	CARBONFILM RESISTOR	RD1/8PM□□□J			CN101 CONNECTOR(10P)	KPE10
	R201	CARBONFILM RESISTOR	RD1/8PM□□□J			CN102 CONNECTOR(12P)	KPE12
	R202-205	CARBONFILM RESISTOR	RDR1/4PM□□□J			X301 CERAMIC RESONATOR	ATF1027
	R206-219	CARBONFILM RESISTOR	RD1/8PM□□□J			X321 CRYSTAL RESONATOR	ASS1005
	R231-234	CARBONFILM RESISTOR	RD1/8PM□□□J			X401 CERAMIC RESONATOR	ASS1055
	R235	METALFILM RESISTOR	RN1/4PQ□□□□F			● POWER ASSEMBLY(AWZ3639)	
	R236	CARBONFILM RESISTOR	RD1/8PM□□□J			COILS/TRANSFORMERS	
	R237, 238	CARBONFILM RESISTOR	RDR1/4PM□□□J			△ L351 FILTER	ATF-163
	R239, 240	CARBONFILM RESISTOR	RD1/8PM□□□J			△ T351 POWER TRANSFORMER	ATT1154
	R241, 242	CARBONFILM RESISTOR	RDR1/4PM□□□J			CAPACITORS	
	R245-252	CARBONFILM RESISTOR	RDR1/4PM□□□J			△ C353 CKA (0.01/AC400V)	ACG1002
	R281, 282	CARBONFILM RESISTOR	RDR1/4PM□□□J			DISPLAY ASSEMBLY (AWP1034)	
	R283-289	CARBONFILM RESISTOR	RD1/8PM□□□J			SEMICONDUCTORS	
	R301	CARBONFILM RESISTOR	RD1/8PM□□□J			IC901, 902 FL STATIC DRIVER IC	LC7570
	R303-307	CARBONFILM RESISTOR	RD1/8PM□□□J			Q901 TRANSISTOR	DTC143ES
	R309-311	CARBONFILM RESISTOR	RD1/8PM□□□J			D901-905 DIODE	1SS252
	R321-329	CARBONFILM RESISTOR	RD1/8PM□□□J			D906, 907 LED	AEL1072
	R352	CARBONFILM RESISTOR	RD1/8PM□□□J			SWITCHES	
	R353	CARBONFILM RESISTOR	RD1/2PM□□□J			S901-924 SWITCH	ASG1034
△	R354	FUSIBLE RESISTOR	RFA1/4PS□□□J			CAPACITORS	
	R355	CARBONFILM RESISTOR	RD1/2PM□□□J			C901 CERAMIC CAPACITOR	CKPU/Y103M16
	R356, 357	CARBONFILM RESISTOR	RD1/8PM□□□J			RESISTORS	
	R358-361	CARBONFILM RESISTOR	RD1/4PM□□□J			R901, 902 CARBONFILM RESISTOR	RD1/8PM□□□J
	R362-365	CARBONFILM RESISTOR	RD1/8PM□□□J			R905 CARBONFILM RESISTOR	RD1/8PM□□□J
	R384	CARBONFILM RESISTOR	RD1/8PM□□□J			OTHERS	
	R401	CARBONFILM RESISTOR	RD1/8PM□□□J			V901 FL TUBE	AAV1095
	R403	CARBONFILM RESISTOR	RD1/8PM□□□J			FRONT END MODULE ASSEMBLY (AXQ1004)	
	R406	CARBONFILM RESISTOR	RD1/8PM□□□J			The component parts of Front End Module assembly (AXQ1004) cannot be supplied.	
	R410-436	CARBONFILM RESISTOR	RD1/8PM□□□J				
	R437	RESISTOR ARRAY(22K)	RA8T□□□J				
	R438	CARBONFILM RESISTOR	RD1/8PM□□□J				
	R451	CARBONFILM RESISTOR	RD1/8PM□□□J				
	R453	CARBONFILM RESISTOR	RD1/8PM□□□J				
	R455, 456	CARBONFILM RESISTOR	RD1/8PM□□□J				
	R457-462	CARBONFILM RESISTOR	RDR1/4PM□□□J				
	R463-478	CARBONFILM RESISTOR	RD1/8PM□□□J				
	VR201, 202	VR	ACP1042				
	VR203	VR	ACP1040				
	VR204	VR	ACP1043				
	VR205	VR	ACP1046				
	VR206	VR	ACP1038				
	VR231	VR	VRTS6VS222				
	VR232	VR	ACP1044				
	VR281	VR	ACP1044				
	VR282	VR	ACP1043				
	VR301	VR	ACP1043				
	VR451	VR	ACP1045				

6. ADJUSTMENTS

6.1 FM TUNER ADJUSTMENTS

- Connect as shown in Fig. 6-1.

6.1.1 FM MONO

Step	Adjustment name	FM SG (1 kHz ± 75 kHz dev.)			FL display, IF BAND etc.	Location	Adjustment
		Frequency	Modulation	Level			
1	T meter adjustment	98 MHz	MONO	60 dB μ	98 MHz NORMAL	T201-B	Adjust so that the voltage between TP2 and TP3 becomes 0 ± 100 mV.
2	MONO distortion adjustment	98 MHz	MONO	60 dB μ	98 MHz NORMAL	T201-A VR203	Adjust so that the distortion becomes minimum.
3	Sub-balance adjustment	98 MHz	MONO	60 dB μ	98 MHz NORMAL	VR206	Adjust so that the AC voltage at IC201 pin 2 becomes minimum.

6.1.2 FM STEREO

Step	Adjustment name	FM SG (1 kHz ± 75 kHz dev.)			FL display, IF BAND etc.	Location	Adjustment
		Frequency	Modulation	Level			
1	VCO adjustment	108 MHz	OFF	60 dB μ	108 MHz	VR231	Adjust so that the output at TP7 becomes 38 kHz ± 100 Hz.
2	Pilot cancel	107 MHz	PILOT ONLY	60 dB μ	107 MHz NORMAL	VR232	Adjust so that the AC voltage at output terminal becomes minimum. (MAX LPF: OFF)
3	STEREO distortion adjustment (NORMAL)	89 MHz	L-ONLY	60 dB μ	89 MHz NORMAL	VR281	Adjust so that the distortion becomes minimum.
4	STEREO distortion adjustment (SUPER NARROW)	89 MHz	L-ONLY	60 dB μ	89 MHz SUPER NARROW	VR282	Adjust so that the distortion becomes minimum.
5	Separation adjustment	89 MHz	R-ONLY	60 dB μ	89 MHz NORMAL	VR202	Adjust so that the separation R \rightarrow L becomes maximum.
6			L-ONLY	60 dB μ	89 MHz NORMAL	VR201	Adjust so that the separation L \rightarrow R becomes maximum.
7	Noise reduction adjustment	89 MHz	L-ONLY	60 dB μ	89 MHz NORMAL MPX NR: ON/OFF	VR451	Adjust so that the output level, when ON, becomes $+1^{+0.5}_{-0.1}$ dB when the MPX NR of the main unit is OFF.

Stereo modulation: Main 1 kHz L+R ± 68.25 Hz, Pilot 19 kHz ± 6.75 kHz.

6.1.3 FM ETC

Step	Adjustment name	FM SG (1 kHz ± 75 kHz dev.)			FL display, IF BAND etc.	Location	Adjustment
		Frequency	Modulation	Level			
1	S meter adjustment	99 MHz	MONO	75 dB μ	99 MHz NORMAL	VR205	Adjust so that the voltage between TP4 and GND becomes $4.8^{+0.05}_{-0.1}$ V.
2	Muting level adjustment	99 MHz	MONO	12 dB μ	99 MHz NORMAL	VR204	Adjust so that the muting is released at the input level shown on the left.

6.2 AM TUNER ADJUSTMENTS

- Connect as shown in Fig. 6-2.

Step	Adjustment name	FM SG (400 Hz 30% modulation)			FL display, IF BAND etc.	Location	Adjustment
		Frequency	Modulation	Level			
1	Tracking adjustment *1	603 kHz	OFF	Low input level	603 kHz	ANT coil of MW block	Adjust so that the voltage between TP9 and GND becomes maximum.
		1395 kHz	OFF	Low input level	1395 kHz	TC101	
2	IFT adjustment *1	603 kHz	OFF	Low input level	603 kHz	F301	
3	S meter adjustment	1008 kHz	ON	74 dB μ V/m	1008 kHz	VR301	Adjust so that the voltage between TP9 and GND becomes 2.5 ± 0.05 V.

*1: Adjustment only for HIX1B.

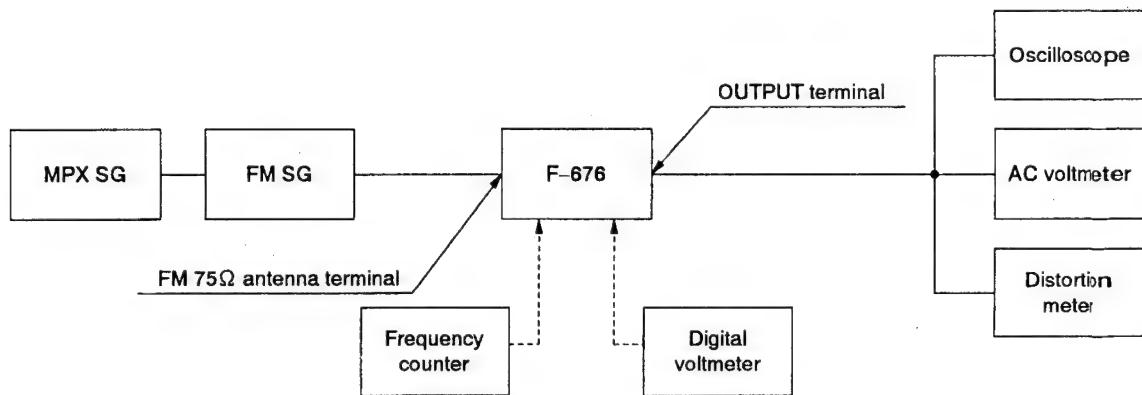


Fig. 6-1 FM Tuner Connection

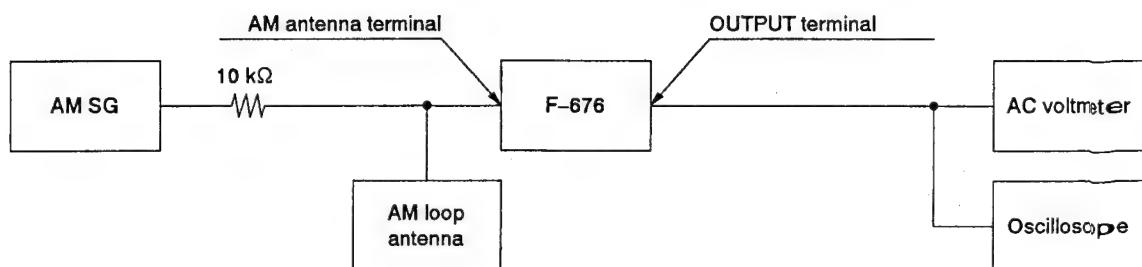


Fig. 6-2 AM Tuner Connection

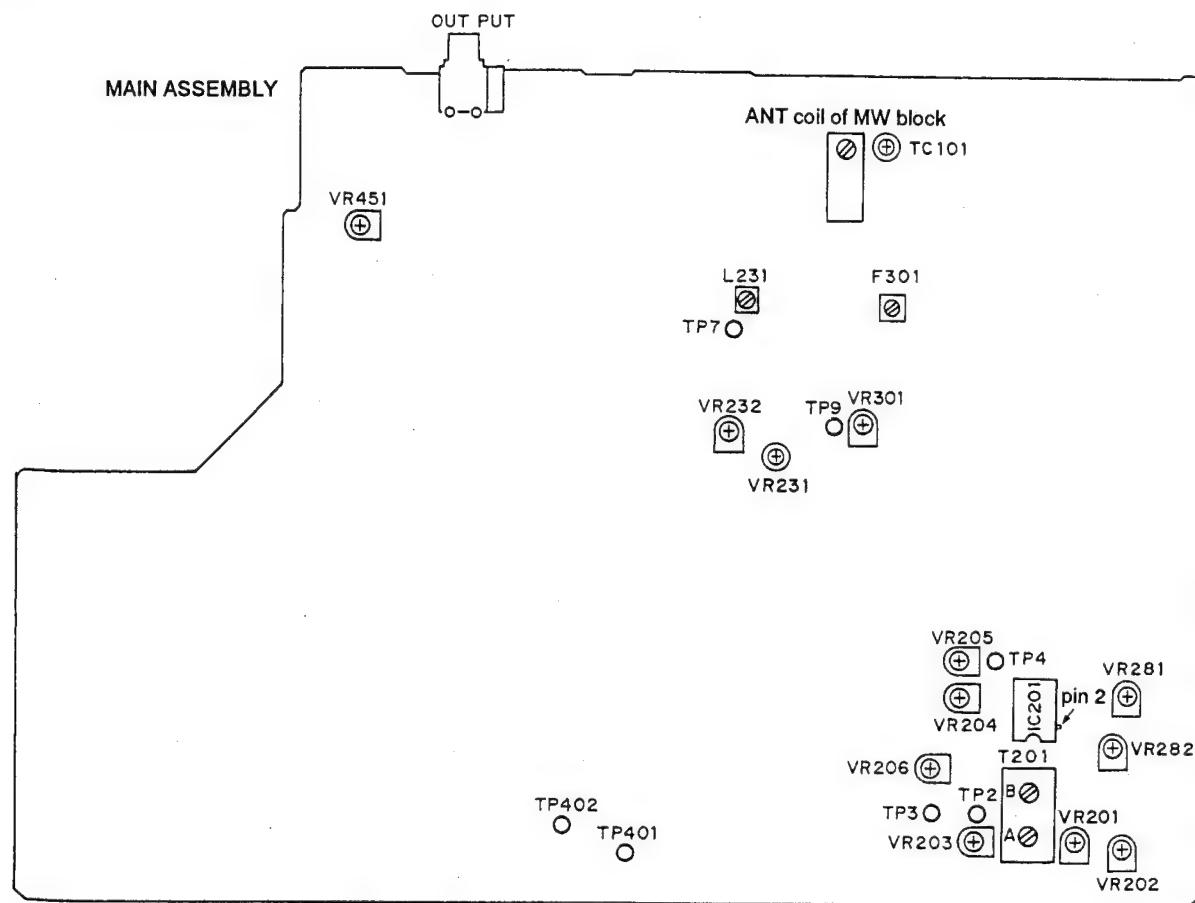


Fig. 6-3 Adjusting Point

6. RÉGLAGES

6.1 RÉGLAGES DU SYNTONISEUR FM

- Raccorder comme indiqué à la figure 6-1.

6.1.1 MONO FM

Etape	Nom du réglage	FM SG (1 kHz ± 75 kHz dev.)			Affichage FL, GAMME FI, etc.	Emplacement	Réglage
		Fréquence	Modulation	Niveau			
1	Appareil de mesure en T	98 MHz	MONO	60 dB μ	98 MHz NORMAL	T201-B	Régler afin que la tension entre TP2 et TP3 soit de 0 ± 100 mV.
2	Réglage de distorsion MONO	98 MHz	MONO	60 dB μ	98 MHz NORMAL	T201-A VR203	Régler afin que la distorsion soit minimale.
3	Réglage de l'équilibre auxiliaire	98 MHz	MONO	60 dB μ	98 MHz NORMAL	VR208	Régler afin que la tension CA à IC201 Broche 2 soit minimale.

6.1.2 STEREO FM

Etape	Nom du réglage	FM SG (1 kHz ± 75 kHz dev.)			Affichage FL, GAMME FI, etc.	Emplacement	Réglage
		Fréquence	Modulation	Niveau			
1	Réglage du VCO	108 MHz	OFF	60 dB μ	108 MHz	VR231	Régler afin que la sortie à TP7 soit de 38 kHz ± 100 Hz
2	Neutralisation pilote	107 MHz	PILOT ONLY	60 dB μ	107 MHz NORMAL	VR232	Régler afin que la tension CA, brones de sortie, soit minimale. (MAX LPF: HORS CIRCUIT)
3	Réglage de distorsion STEREO (NORMAL)	89 MHz	L-ONLY	60 dB μ	89 MHz NORMAL	VR281	Régler afin que la distorsion soit minimale.
4	Réglage de distorsion STEREO (SUPER NARROW)	89 MHz	L-ONLY	60 dB μ	89 MHz SUPER NARROW	VR282	Régler afin que la distorsion soit minimale.
5	Réglage de séparation	89 MHz	R-ONLY	60 dB μ	89 MHz NORMAL	VR202	Régler afin que la séparation D \rightarrow G soit maximale.
6			L-ONLY	60 dB μ	89 MHz NORMAL	VR201	Régler afin que la séparation G \rightarrow D soit maximale.
7	Réglage de réduction de bruit	89 MHz	L-ONLY	60 dB μ	89 MHz NORMAL MPX NR: ON/OFF	VR451	Régler afin que le niveau de sortie, quand ON, soit de $+1 \pm 0,5$ dB lors que le MPX NR de l'unité principale est hors-circuit.

Modulation de stéréo: Principalé 1 kHz L+R $\pm 68,25$ Hz, Pilote 19 kHz $\pm 6,75$ kHz.

6.1.3 ETC FM

Etape	Nom du réglage	FM SG (1 kHz ± 75 kHz dev.)			Affichage FL, GAMME FI, etc.	Emplacement	Réglage
		Fréquence	Modulation	Niveau			
1	Appareil de mesure en S	98 MHz	MONO	75 dB μ	98 MHz NORMAL	VR205	Régler afin que la tension entre TP4 en GND soit $4,9 \pm 0,05$ V.
2	Réglage de niveau de sourdine	98 MHz	MONO	12 dB μ	98 MHz NORMAL	VR204	Régler afin que la sourdine soit relâchée au niveau d'entrée indiqué sur la gauche.

6.2 RÉGLAGES DU SYNTONISEUR AM

- Raccorder comme indiqué à la figure 6-2.

Etape	Nom du réglage	FM SG (400 Hz 30% modulation)			Affichage FL, GAMME FI, etc.	Emplacement	
		Réglage	Fréquence	Modulation		Niveau	
1	Réglage d'alignement *1	803 kHz	OFF	Niveau bas d'entrée	803 kHz	Bobine ANT du bloc OM	Régler afin que la tension entre TP9 et GND soit maximale.
		1395 kHz	OFF	Niveau bas d'entrée	1395 kHz	TC101	
2	Réglage du transformateur de FI *1	803 kHz	OFF	Niveau bas d'entrée	803 kHz	F301	
3	Appareil de mesure en S	1008 kHz	ON	74 dB μ V/m	1008 kHz	VR301	Régler afin que la tension entre TP9 et GND soit $2,5 \pm 0,05$ V.

* 1: Réglage pour HIX1B seulement.

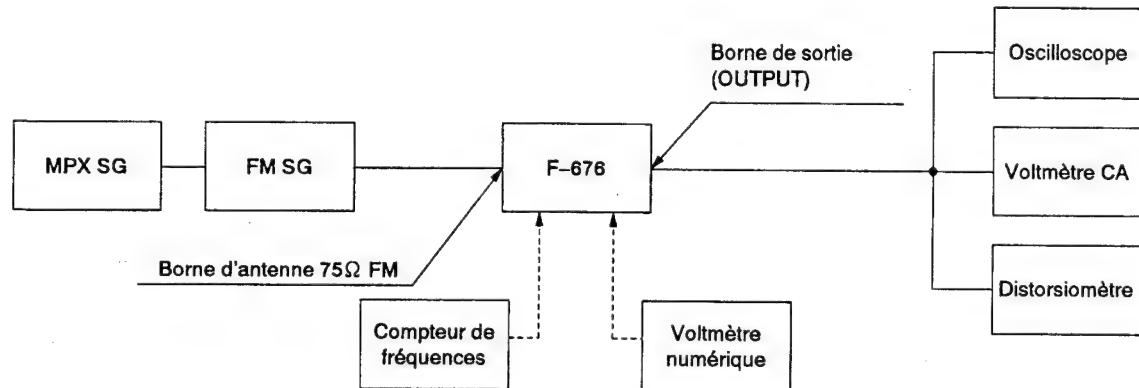


Fig. 6-1 Branchement du syntoniseur FM

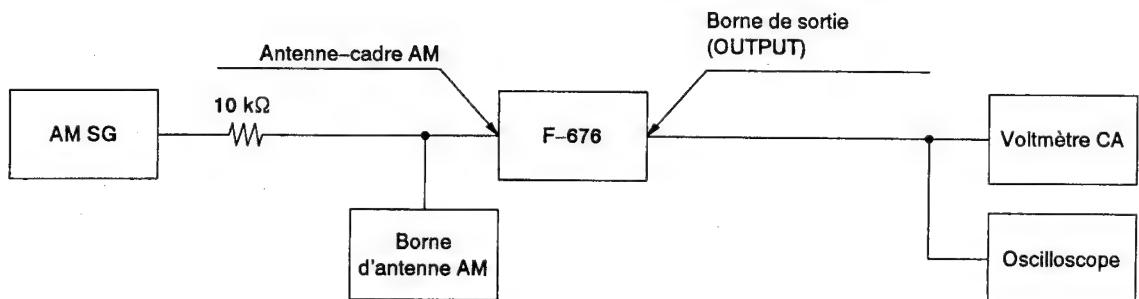


Fig. 6-2 Branchement du syntoniseur FM

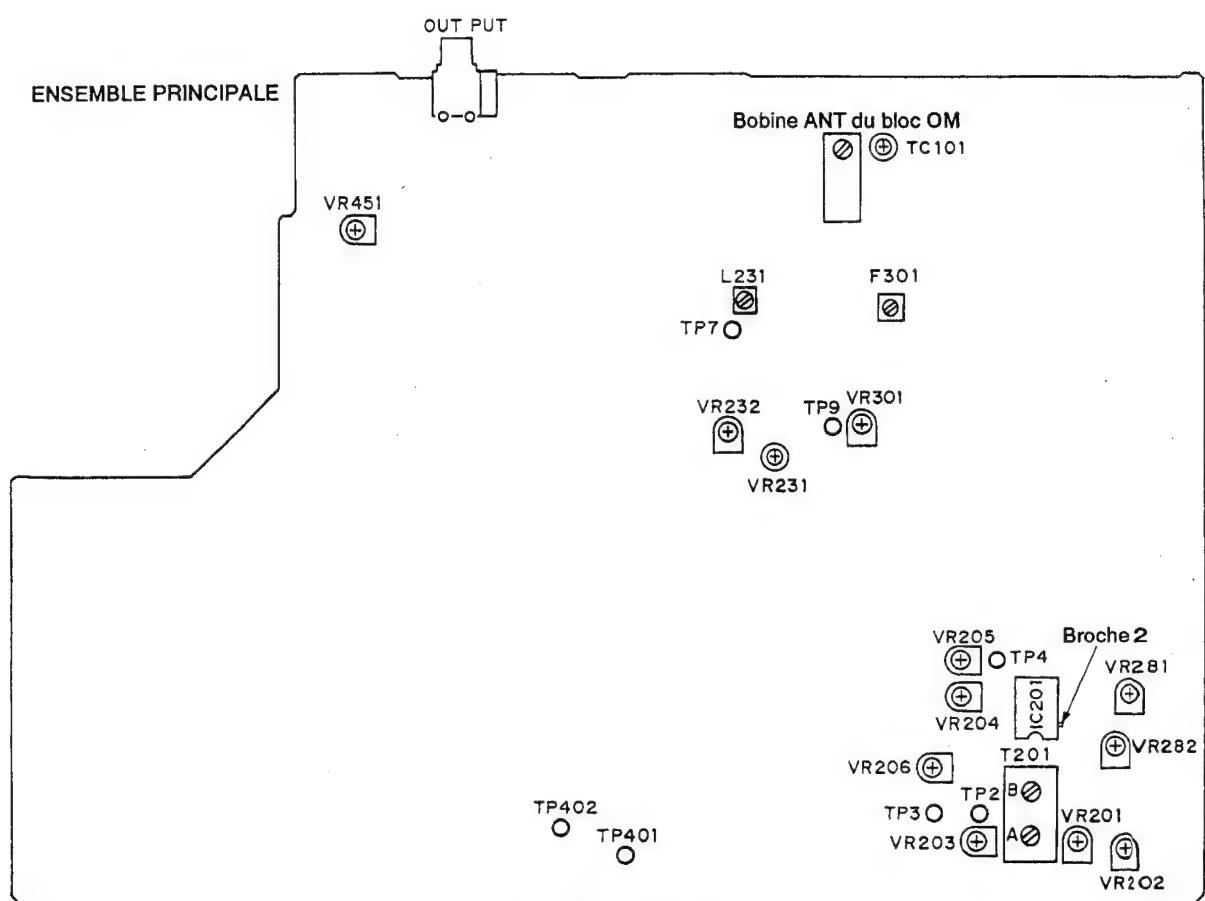


Fig. 6-3 Point de réglage

6. AJUSTES

6.1 AJUSTES DEL SINTONIZADOR DE FM

- Conecte como indica la Fig. 6-1.

6.1.1 FM MONO

Paso	Ajuste	FM SG (1 kHz ± 75 kHz dev.)			Visualización fluorescente, banda de FI, etc.	Posición	Ajuste
		Frecuencia	Modulación	Nivel			
1	Ajuste del medidor T	98 MHz	MONO	60 dB μ	98 MHz NORMAL	T201-B	Ajuste de modo que la tensión entre TP2 y TP3 sea 0 ± 100 mV.
2	Ajuste de la distorsión monofónica	98 MHz	MONO	60 dB μ	98 MHz NORMAL	T201-A VR203	Ajuste de modo que la distorsión sea mínima.
3	Ajuste del subbalance	98 MHz	MONO	60 dB μ	98 MHz NORMAL	VR206	Ajuste de modo que la tensión de CA en IC201 patilla 2 sea mínima.

6.1.2 FM STEREO

Paso	Ajuste	FM SG (1 kHz ± 75 kHz dev.)			Visualización fluorescente, banda de FI, etc.	Posición	Ajuste
		Frecuencia	Modulación	Nivel			
1	Ajuste del VCO	108 MHz	OFF	60 dB μ	108 MHz	VR231	Ajuste de modo que la salida en TP7 sea 38 kHz ± 100 Hz
2	Cancelación del piloto	107 MHz	PILOT ONLY	60 dB μ	107 MHz NORMAL	VR232	Ajuste de modo que la tensión de terminales de salida, CA sea mínima (MAX LPF: OFF)
3	Ajuste de la distorsión estereofónica (NORMAL)	89 MHz	L-ONLY	60 dB μ	89 MHz NORMAL	VR281	Ajuste de modo que la distorsión sea mínima.
4	Ajuste de la distorsión estereofónica (SUPER ESTRECHA)	89 MHz	L-ONLY	60 dB μ	89 MHz SUPER NARROW	VR282	Ajuste de modo que la distorsión sea mínima.
5	Ajuste de la separación	89 MHz	R-ONLY	60 dB μ	89 MHz NORMAL	VR202	Ajuste de modo que la separación R \rightarrow L sea máxima.
6			L-ONLY	60 dB μ	89 MHz NORMAL	VR201	Ajuste de modo que la separación L \rightarrow R sea máxima.
7	Ajuste de la reducción de ruido	89 MHz	L-ONLY	60 dB μ	89 MHz NORMAL MPX NR: ON/OFF	VR451	Ajuste de modo que el nivel de salida, cuando ON, sea $+1^{+0,5}_{-0,1}$ dB cuando el MPX NR de la unidad principal esté en OFF.

Modulación de estéreo: Principal 1 kHz L+R $\pm 68,25$ Hz, Piloto 19 kHz $\pm 6,75$ kHz.

6.1.3 FM ETC

Paso	Ajuste	FM SG (1 kHz ± 75 kHz dev.)			Visualización fluorescente, banda de FI, etc.	Posición	Ajuste
		Frecuencia	Modulación	Nivel			
1	Ajuste del medidor S	98 MHz	MONO	75 dB μ	98 MHz NORMAL	VR205	Ajuste de modo que la tensión entre TP4 y masa sea $4,9^{+0,05}_{-0,1}$ V.
2	Ajuste del nivel silenciador	98 MHz	MONO	12 dB μ	98 MHz NORMAL	VR204	Ajuste de modo que el silenciamiento se desconecte en el nivel de entrada mostrado a la izquierda.

6.2 AJUSTES DEL SINTONIZADOR DE AM

- Conecte como indica la Fig. 6-2.

Paso	Ajuste	FM SG (400 Hz 30% modulación)			Visualización fluorescente, banda de FI, etc.	Posición	Ajuste
		Frecuencia	Modulación	Nivel			
1	Ajuste del seguimiento *1	803 kHz	OFF	Nivel de entrada bajo	803 kHz	Bobina de antena del bloque de MW	Ajuste de modo que la tensión entre TP9 y masa sea máxima.
		1395 kHz	OFF	Nivel de entrada bajo	1395 kHz	TC101	
2	Ajuste del IFT *1	803 kHz	OFF	Nivel de entrada bajo	803 kHz	F301	
3	Ajuste del medidor S	1008 kHz	ON	74 dB μ V/m	1008 kHz	VR301	Ajuste de modo que la tensión entre TP9 y masa sea $2,5 \pm 0,05$ V

* 1: Ajuste sólo para HIX1B.

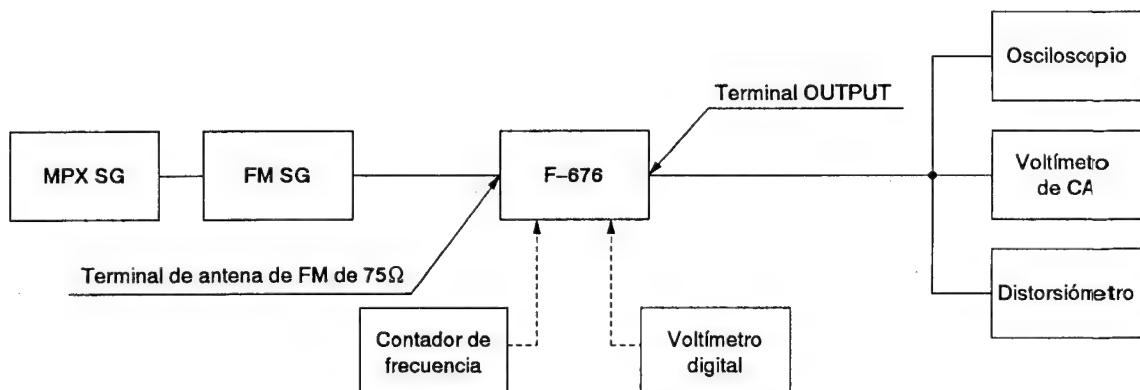


Fig. 6-1 Conexión del sintonizador de FM

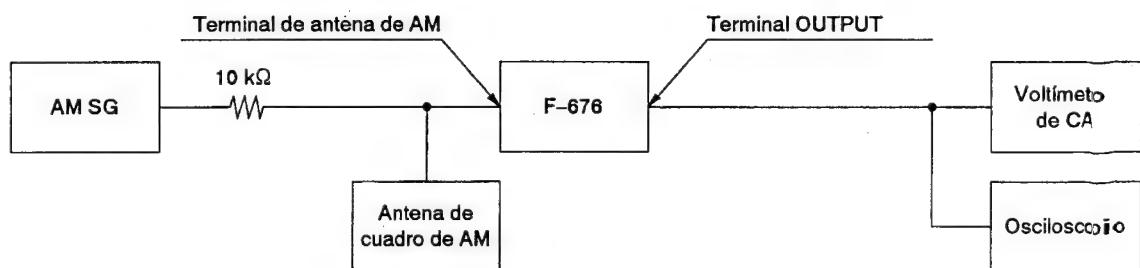


Fig. 6-2 Conexión del sintonizador de AM

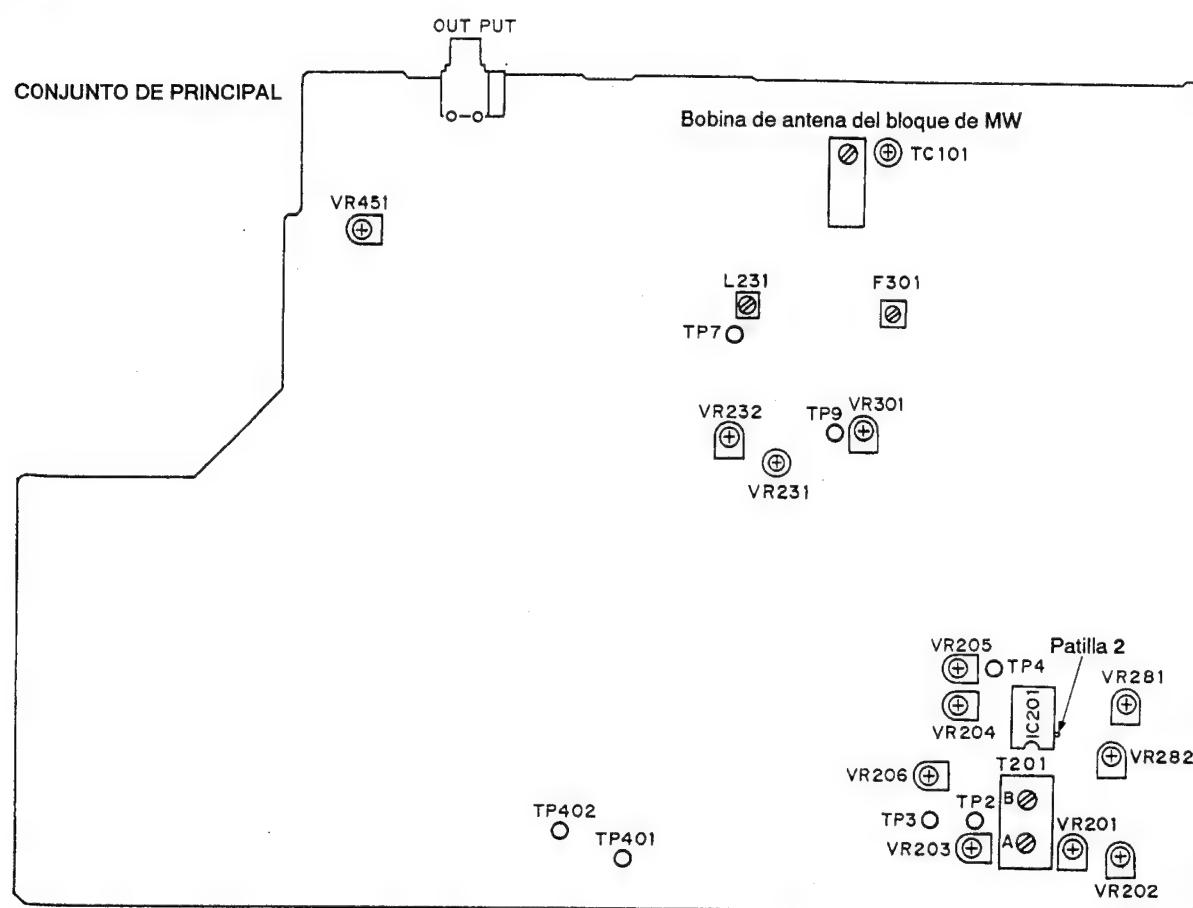


Fig. 6-3 Punto de ajuste

7. FOR F-676/HE, HB AND F-676-S/HEWZ TYPES

CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- Parts without part number cannot be supplied.
- The **▲** mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

The F-676/HE, HB and F-676-S/HEWZ types are the same as the F-676/HEWZ type with the exception of the following sections.

Mark	Symbol & Description	Part No.				Remarks
		F-676/ HEWZ type	F-676/ HE type	F-676/ HB type	F-676-S/ HEWZ type	
●	TUNER assembly	AWZ3635	AWZ3636	AWZ3636	AWZ3635	
●	POWER assembly	AWZ3639	AWZ3640	AWZ3640	AWZ3639	
▲	AC Power cord	ADG1010	ADG1021	ADG1085	ADG1010	
	Station button (1/13/25-6/18/30)	AAD1751	AAD1751	AAD1751	AAD1753	
	Station button (7/19/31-12/24/36)	AAD1752	AAD1752	AAD1752	AAD1754	
	Panel base	AMB1815	AMB1815	AMB1815	AMB1816	
	Front panel	ANB1449	ANB1449	ANB1449	ANB1450	
	Bonnet	AZN1745	AZN1745	AZN1745	AZN1803	
	Screw	ABA1047	.....	.....	.....
	Screw	.....	.....	.....	ABA-274	
	Packing case	AHD2053	AHD2053	AHD2053	AHD2054	
	Operating instructions (German)	ARC1263	.....	.....	ARC1263	
	Operating instructions (English/French/Italian/Spanish/ Portuguese/Dutch/Swedish/German)	.....	ARE1190	.....	.....
	Operating instructions (English)	.....	.....	ARB1313	.....

◎ TUNER ASSEMBLY (AWZ3636)

The TUNER assembly (AWZ3636) is the same as the TUNER assembly (AWZ3635) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWZ3635	AWZ3636	
	D108	1SV158	.....
	D151-D158	1SS85	1SS252	
	L101	LAU2R2M	.....
	L102-L104	LAU470K	.....
	L232	LAU010M	.....
	L233, L234	LAU100K	.....
	C102	CKPUYY103M16	.....
	C110, C112	CKDYX103M25	.....
	C116	.....	CKDYX103M25	
	C206, C217	CEEA101M16	CEAS101M16	
	C245	CEEA102M16	CEAS102M10	
	C248	CEEA221M16	CEAS221M16	
	C249, C250	CEEA4R7M25	CEAS4R7M50	
	C101, C253	CKDYX103M25	.....
	C451	CEEA221M16	CEAS221M16	
	C453, C454	CEEANP010M50	CEANP010M50	
	C456, C457	CEEANP4R7M25	CEANP4R7M35	
	C474	CEEA102M16	CEAS102M10	
	R101	RD1/8PM153J	.....
	R102	RD1/2PM681J	RD1/4PM472J	
	R103	RD1/8PM330J	.....
	R114	.....	RD1/8PM103J	
	R202, R203	RDR1/4PM103J	RD1/8PM103J	
	R204, R205	RDR1/4PM332J	RD1/8PM332J	
	R237, R238	RDR1/4PM223J	RD1/8PM223J	
	R241, R242	RDR1/4PM333J	RD1/8PM333J	
	R245, R246	RDR1/4PM333J	RD1/4PM333J	
	R247, R248	RDR1/4PM123J	RD1/4PM102J	
	R249, R250	RDR1/4PM821J	RD1/4PM821J	
	R251, R252	RDR1/4PM222J	RD1/4PM152J	
	R281, R282	RDR1/4PM331J	RD1/8PM331J	
	R457, R458	RDR1/4PM821J	RD1/8PM821J	
	R459, R460	RDR1/4PM132J	RD1/8PM132J	
	R461, R462	RDR1/4PM361J	RD1/8PM361J	
	Front End Module assembly	AXQ1004	AXQ1003	

◎ POWER ASSEMBLY (AWZ3640)

The POWER assembly (AWZ3640) is the same as the POWER assembly (AWZ3639) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWZ3639	AWZ3640	
△	C353	ACG1002	.....
△	L351	ATF-163	.....

8. SPECIFICATIONS

8.1 FEHLERSUCHE (F-676/HEWZ)

UKW-Tunerteil

Frequenzbereich	87,5 bis 108 MHz
Nutzempfindlichkeit	
NORMAL	Mono: 12,1 dBf, IHF (1,1 μ V/75 Ω)
50 dB Empfindlichkeitsschwelle	
NORMAL	Mono: 16,2 dBf, IHF (1,8 μ V/75 Ω)
Stereo: 36,2 dBf, IHF (17,7 μ V/75 Ω)	
Empfindlichkeit (DIN)	
NORMAL	Mono: 0,9 μ V/75 Ω
Stereo: 28 μ V/75 Ω	
Rauschabstand	Mono: 83 dB (bei 80 dBf)
Stereo: 78 dB (bei 80 dBf)	
Rauschabstand (DIN)	
Mono: 72 dB	
Stereo: 65 dB	
Verzerrung (bei 80 dBf)	
NORMAL	Mono: 0,06 % (1 kHz)
Stereo: 0,2 % (1 kHz)	
SUPER NARROW	Mono: 0,15 % (1 kHz)
Stereo: 0,8 % (1 kHz)	
Ausweichkanal-Trennschärfe	
NORMAL	80 dB (400 kHz)
SUPER NARROW	80 dB (300 kHz)
Stereotrennung	55 dB (1 kHz)
40 dB (20 Hz bis 10 kHz)	
Frequenzgang	$\pm 0,4$ dB (20 Hz bis 15 kHz)
Spiegelselektion	50 dB
ZF-Sicherheit	90 dB
AM-Unterdrückung	60 dB
Nebenwellenunterdrückung	70 dB
Hilfsträgerunterdrückung	55 dB
Ansprechschwelle für Geräuschsperrre	23,2 dBf (4 μ V/75 Ω)
Antenneneingang	75 Ω unsymmetrisch

8.2 SPECIFICATIONS

FM Tuner Section

Frequency range	87.5 MHz to 108 MHz
Usable Sensitivity	
NORMAL	Mono: 12.1 dBf, IHF (1.1 μ V/75 Ω)
50 dB Quieting Sensitivity	
NORMAL	Mono: 16.2 dBf, IHF (1.8 μ V/75 Ω)
Stereo: 36.2 dBf, IHF (17.7 μ V/75 Ω)	
Sensitivity (DIN)	
NORMAL	Mono: 0.9 μ V/75 Ω
Stereo: 28 μ V/75 Ω	
Signal-to-Noise Ratio	Mono: 83 dB (at 80 dBf)
Stereo: 78 dB (at 80 dBf)	
Signal-to-Noise Ratio (DIN)	Mono: 72 dB
Stereo: 65 dB	
Distortion (at 80 dBf)	
NORMAL	Mono: 0.06 % (1 kHz)
Stereo: 0.2 % (1 kHz)	
SUPER NARROW	Mono: 0.1 % (1 kHz)
Stereo: 0.8 % (1 kHz)	
Alternate Channel Selectivity	
NORMAL	80 dB (400 kHz)
SUPER NARROW	80 dB (300 kHz)
Stereo Separation	55 dB (1 kHz)
40 dB (20 Hz to 10 kHz)	
Frequency Response	$\pm 0,4$ dB (20 Hz to 15 kHz)
Image Response Ratio	50 dB
IF Response Ratio	90 dB
AM Suppression Ratio	60 dB
Spurious Response Ratio	70 dB
Subcarrier Product Ratio	55 dB
Muting Threshold	23.2 dBf (4 μ V/75 Ω)
Antenna Input	75 Ω unbalanced

MW-Tunerteil

Frequenzbereich	531 kHz bis 1.602 kHz (Step 9 kHz)
Empfindlichkeit (IHF, Rahmenantenne)	300 μ V/m
Trennschärfe	40 dB
Rauschabstand	50 dB
Spiegelselektion	40 dB
ZF-Sicherheit	50 dB
Antenne	Rahmenantenne

Audioteil

Ausgang (Pegel/Impedanz)	
UKW (100 % Mod.)	650 mV/0,9 k Ω
MW (30 % Mod.)	150 mV/0,9 k Ω

Sonstiges

Netzanschluß	Wechselstrom 220 — 230 V, 50/60 Hz
Leistungsaufnahme	20 W
Abmessungen	420 (B) x 86 (H) x 316 (T) mm
Gewicht (ohne Verpackung)	3,5 kg

Mitgeliefertes Zubehör

T-förmige UKW-Antenne	1
MW-Rahmenantenne	1
Cinch-Anschlußkabel	1
Bedienungsanleitung	1

HINWEIS:

Änderungen der technischen Daten und des Designs zum Zwecke der Verbesserung vorbehalten.

AM Tuner Section

Frequency range	531 kHz to 1,602 kHz (Step 9 kHz)
Sensitivity (IHF, Loop antenna)	300 μ V/m
Selectivity	40 dB
Signal-to-Noise Ratio	50 dB
Image Response Ratio	40 dB
IF Response Ratio	50 dB
Antenna	Loop Antenna

Audio Section

Output (Level/Impedance)	
FM (100 % MOD)	650 mV/0.9 k Ω
AM (30 % MOD)	150 mV/0.9 k Ω

Miscellaneous

Power requirements	a.c. 220 — 230 Volts ~, 50/60 Hz
Power Consumption	20 W
Dimensions	420 (W) x 86 (H) x 316 (D) mm
Weight (without package)	3.5 kg

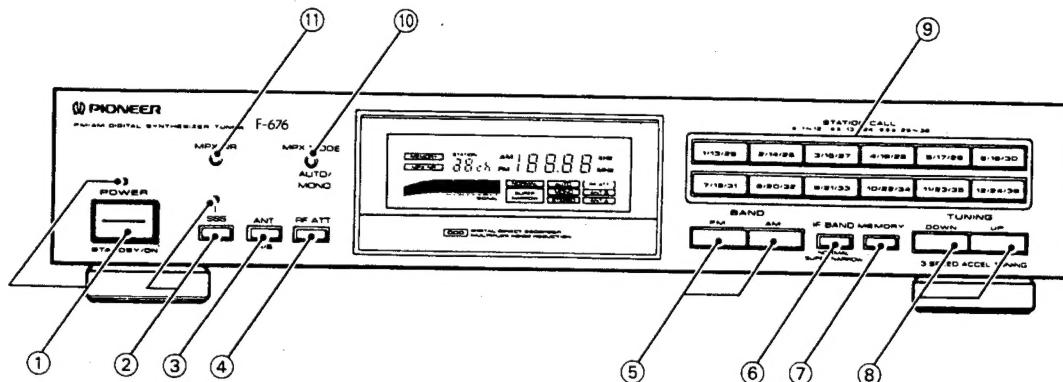
Furnished Parts

FM T-type Antenna	1
AM Loop Antenna	1
Connecting Cord with Pin Plugs	1
Operating Instructions	1

NOTE:

Specifications and design subject to possible modification without notice due to improvements.

9. PANEL FACILITIES



① POWER (STANDBY/ON) switch/indicator

When the power is on, indicator lights.

ON When set to ON position, power is supplied and the unit becomes operational

STANDBY .. When set to STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.

NOTE:

- The memory will be backed up so long as the power cord is not unplugged.
- If the power cord is unplugged, the memory will be retained for several days.

② SSS button/indicator

When SSS is on, indicator lights. If turned on during reception of AM or when MPX MODE is set to MONO during FM, this will produce a simulated stereo effect which provides rich ambience.

SSS: Spectrum Simulated Stereo.

NOTE:

- This button's status is preset for each station in station memory.
- When the multiplex mode is AUTO, it switches to MONO and operates.

③ ANT A/B button

Selects between two antennas connected to the FM antenna A and B terminals. **ANT A** or **ANT B** indicator lights up.

NOTE:

This button's status is preset for each station in station memory.

④ RF ATT button

Set this button to ON when receiving strong FM signals (nearby stations) to reduce sound distortion ([RF ATT] indicator lights). Normally, this button should be set to OFF.

NOTE:

This button's status is preset for each station in station memory.

⑤ BAND selector buttons

FM:

Press to receive FM broadcasts.

AM:

Press to receive AM broadcasts.

⑥ IF BAND button

Each time this button is pressed the bandwidth of the IF circuit switches between "normal" and "super narrow" for the FM band.

The selected bandwidth is displayed as follows:

The **NORMAL** or **SUPER NARROW** indicator lights up.

Set to SUPER NARROW in case of interference from other stations.

NOTE:

This button's status is preset for each station in station memory.

⑦ MEMORY button

Press to memorize preset stations. The **MEMORY** indicator will remain lit for several seconds. Press the desired STATION CALL buttons to memorize it during this period.

See page 18 for operational details.

⑧ TUNING UP/DOWN buttons

Use these buttons to tune in broadcasting stations. Press UP to receive a station whose frequency is higher than the displayed frequency, and DOWN to tune into a lower frequency station.

⑨ STATION CALL buttons

Use these buttons to preset stations and to receive already preset stations.

⑩ MPX (multiplex) MODE button

Mode changes as follows each time this button is pressed:



This button does not affect AM reception.

AUTO:

Depending on the broadcast station, STEREO or MONO is automatically selected.

AUTO indicator lights up.

NOTE:

When the signal level is too weak for reception, sound output is automatically muted.

MONO:

To receive stereo broadcasts in monaural.

MONO indicator lights up.

NOTE:

This button's status is preset for each station in station memory.

⑪ MPX NR button

When **MPX NR** is on, indicator lights up.

During reception of stereo broadcasts where the signal is weak, set this to ON if noise is a problem. Noise will be suppressed and sound quality will become clearer.

NOTE:

- This button's status is preset for each station in station memory.

• This does not operate during AM signal reception.

• If the multiplex mode is MONO, it switches to AUTO and operates.